

=> d his

(FILE 'HOME' ENTERED AT 08:37:45 ON 27 OCT 2000)

FILE 'REGISTRY' ENTERED AT 08:37:56 ON 27 OCT 2000

L1 STR  
L2 0 S L1  
L3 STR L1  
L4 0 S L3  
L5 STR L1  
L6 50 S L5  
L7 STR  
L8 31 S L7  
L9 STR  
L10 50 S L9  
L11 35 S L5 OR L7 OR L9  
L12 50 S L5  
L13 31 S L7  
L14 50 S L9  
L15 STR L3  
L16 11 S L15  
L17 2 S L3 OR L7 OR L9  
L18 0 S L3  
L19 31 S L7  
L20 50 S L9  
L21 SCR 1840  
L22 2 S L3 OR L7 OR L9 AND L21  
L23 48190 S NC4-C6-C6/ES  
L24 437299 S NC4-C6/ES  
L25 43898 S NCOC2-C6/ES  
L26 430781 S (L23 OR L24 OR L25) AND NRS>1  
L27 826 S NC4-NC4-BNC3N/ES  
L28 1805 S OC5/ESS(S)C6/ESS(S)NRRS>2 AND N>1 AND S>1 AND O>6  
L29 433325 S L26 OR L27 OR L28  
L30 28 S L3 OR L7 OR L9 SSS SAM SUB=L29  
L31 1193 S (L3 OR L7 OR L9) AND L21 SSS FUL SUB=L29

FILE 'CAPLUS' ENTERED AT 09:03:06 ON 27 OCT 2000

L32 1618 S L31

FILE 'REGISTRY' ENTERED AT 09:03:19 ON 27 OCT 2000

L33 3 S L3 SSS SAM SUB=L31  
L34 STR L3  
L35 0 S L34 SSS SAM SUB=L31  
L36 STR L7  
L37 0 S L36 SSS SAM SUB=L31  
L38 STR L9  
L39 STR L38  
L40 STR L38  
L41 STR L40  
L42 STR L40  
L43 0 S L34 OR L36 OR L38 OR L39 OR L41 OR L42 SSS SAM SUB=L31  
SAV L31 PONN448/A  
SAV L43 PONN448B/A  
L44 29 S L34 OR L36 OR L38 OR L39 OR L41 OR L42 SSS FUL SUB=L31

L45 FILE 'CAPLUS' ENTERED AT 09:44:28 ON 27 OCT 2000  
132 S L44

L46 FILE 'REGISTRY' ENTERED AT 09:44:40 ON 27 OCT 2000  
26 S L44/COMP

L47 FILE 'CAPLUS' ENTERED AT 09:48:15 ON 27 OCT 2000  
129 S L46

L48 FILE 'REGISTRY' ENTERED AT 09:49:15 ON 27 OCT 2000  
1 S 146368-14-1

L49 1 S 146368-16-3

FILE 'CAPLUS' ENTERED AT 09:52:39 ON 27 OCT 2000

L50 FILE 'HCAPLUS' ENTERED AT 09:52:47 ON 27 OCT 2000  
129 S L46

FILE 'REGISTRY' ENTERED AT 09:52:59 ON 27 OCT 2000

L51 FILE 'HCAPLUS' ENTERED AT 09:53:38 ON 27 OCT 2000  
27 S L50 AND (COMBIN? OR ARRAY OR LIBRAR?)  
L52 7 S L50 AND (?COLLECT? OR RECOMBIN?)  
L53 5 S L50 AND (?LIBRAR? OR PLANAR(4A)ARRAY)  
L54 11 S L50 AND HIGH(4A) THROUGH?  
L55 37 S L51-L54  
L56 10 S L50 AND ?ARRAY?  
L57 1 S L56 NOT L55

L58 FILE 'CAOLD' ENTERED AT 10:03:32 ON 27 OCT 2000  
0 S L46

L59 FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 10:04:06 ON 27 OCT 2000  
22 S L46  
L60 17 S L59 AND (COMBIN? OR RECOMBIN? OR ARRAY OR MICROARRAY?)  
L61 16 S L59 AND (LIBRAR? OR COLLECT? OR HIGH(3A) THROUGH?)  
L62 18 S L60 OR L61  
L63 18 DUP REMOV L62 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 10:09:01 ON 27 OCT 2000  
SAV L44 PONN448B/A

26 compounds  
129 cites

38 cites with method

18 patents with

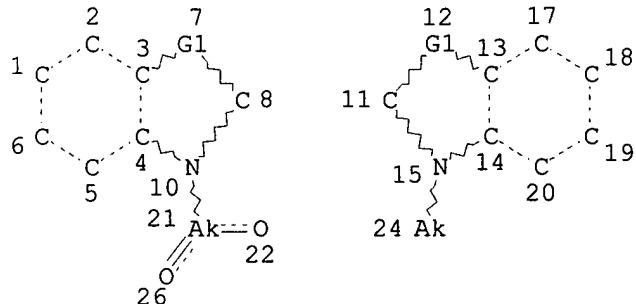
utility -

BEST AVAILABLE COPY

=> d que 144

L3

STR



VAR G1=O/C

NODE ATTRIBUTES:

CONNECT IS E3 RC AT 8

CONNECT IS E3 RC AT 11

CONNECT IS E3 RC AT 21

CONNECT IS E1 RC AT 24

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

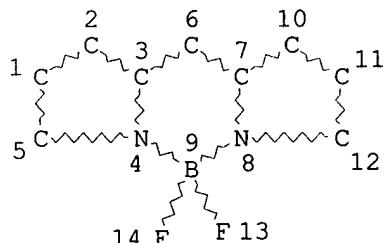
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L7

STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

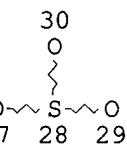
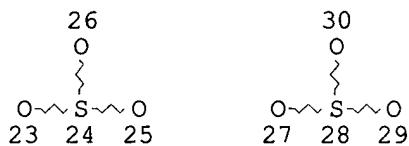
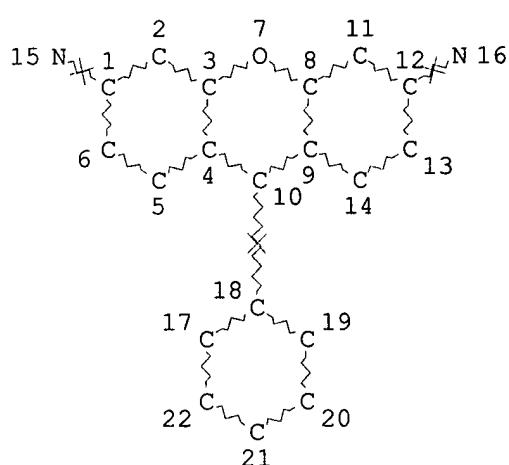
RSPEC I

NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L9

STR



## NODE ATTRIBUTES:

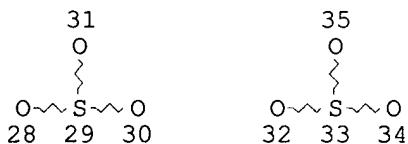
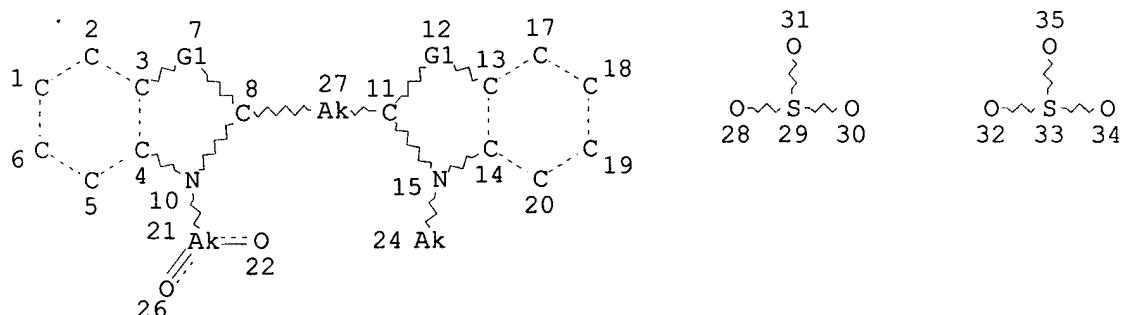
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 30

## STEREO ATTRIBUTES: NONE

L21	SCR 1840			
L23	48190 SEA FILE=REGISTRY ABB=ON	PLU=ON	NC4-C6-C6/ES	
L24	437299 SEA FILE=REGISTRY ABB=ON	PLU=ON	NC4-C6/ES	
L25	43898 SEA FILE=REGISTRY ABB=ON	PLU=ON	NCOC2-C6/ES	
L26	430781 SEA FILE=REGISTRY ABB=ON	PLU=ON	(L23 OR L24 OR L25) AND NRS>1	
L27	826 SEA FILE=REGISTRY ABB=ON	PLU=ON	NC4-NC4-BNC3N/ES	
L28	1805 SEA FILE=REGISTRY ABB=ON	PLU=ON	OC5/ESS(S)C6/ESS(S)NRRS>2 AND N>1 AND S>1 AND O>6	
L29	433325 SEA FILE=REGISTRY ABB=ON	PLU=ON	L26 OR L27 OR L28	
L31	1193 SEA FILE=REGISTRY SUB=L29	SSS FUL	(L3 OR L7 OR L9) AND L21	
L34	STR			



VAR G1=O/C

NODE ATTRIBUTES:

CONNECT IS E3 RC AT 8

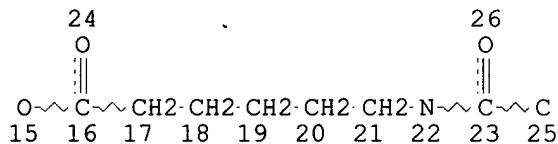
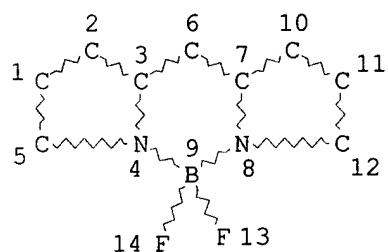
Searched by John Dantzman 703-308-4488

CONNECT IS E3 RC AT 11  
CONNECT IS E3 RC AT 21  
CONNECT IS E1 RC AT 24  
DEFAULT MLEVEL IS ATOM  
GGCAT IS UNS AT 27  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS E6 C AT 21

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE  
L36 STR



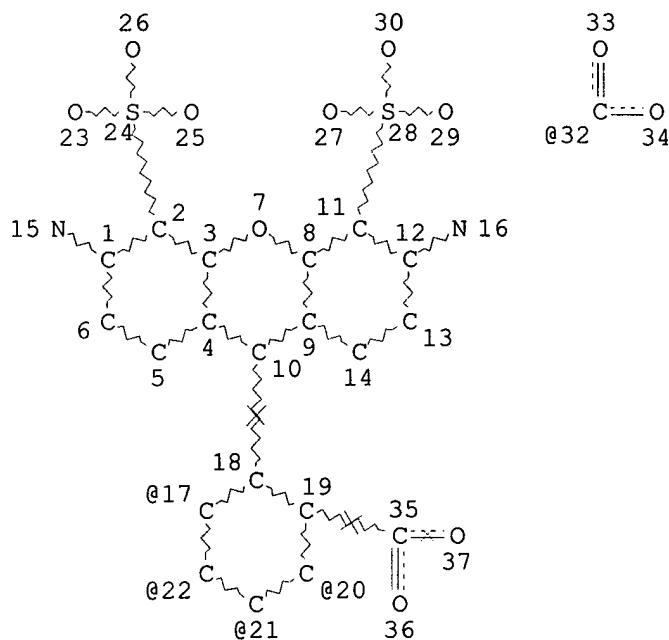
## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC I  
NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE  
L38 STR



VPA 32-20/21/22/17 U

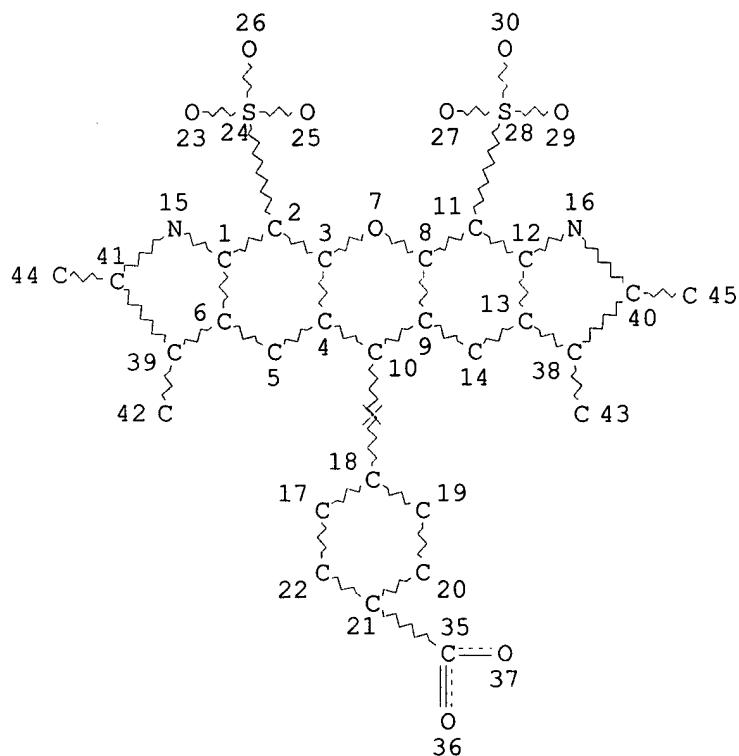
NODE ATTRIBUTES:

CONNECT IS E1 RC AT 15  
CONNECT IS E1 RC AT 16  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 36

STEREO ATTRIBUTES: NONE  
L39 STR



## NODE ATTRIBUTES:

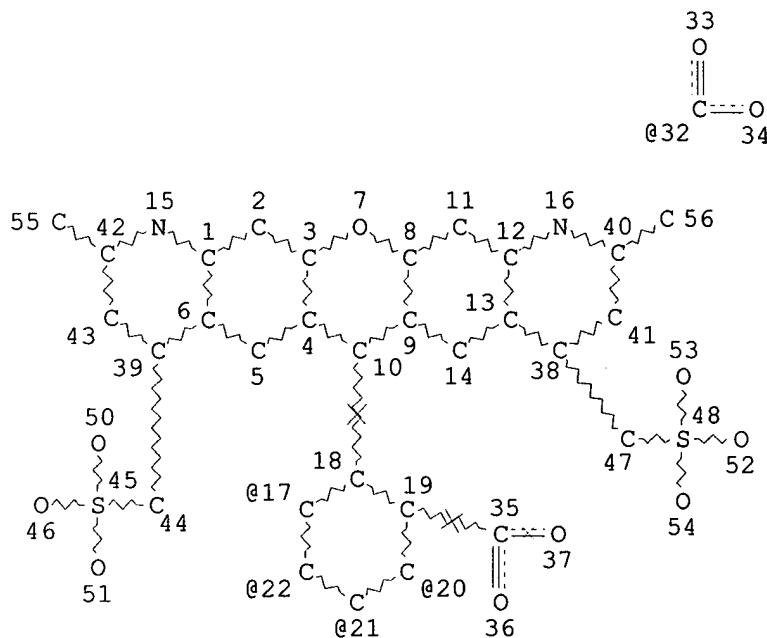
CONNECT IS E1 RC AT 15  
CONNECT IS E1 RC AT 16  
DEFAULT MLEVEL IS ATOM  
MLEVEL IS CLASS AT 40 41  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS UNLIMITED AT 40 41

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 41

## STEREO ATTRIBUTES: NONE

L41 STR



VPA 32-20/21/22/17 U

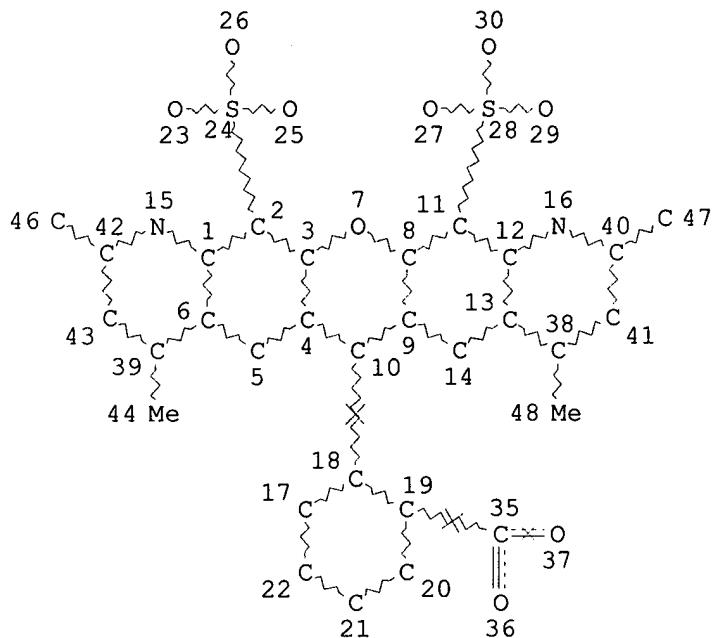
NODE ATTRIBUTES:

CONNECT IS E1 RC AT 15  
 CONNECT IS E1 RC AT 16  
 DEFAULT MLEVEL IS ATOM  
 MLEVEL IS CLASS AT 40 41 42 43  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS UNLIMITED AT 40 41 42 43

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 46

STEREO ATTRIBUTES: NONE  
 L42 STR



## NODE ATTRIBUTES:

CONNECT IS E1 RC AT 15  
CONNECT IS E1 RC AT 16  
DEFAULT MLEVEL IS ATOM  
MLEVEL IS CLASS AT 40 41 42 43  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS UNLIMITED AT 40 41 42 43

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 43

## STEREO ATTRIBUTES: NONE

L44 29 SEA FILE=REGISTRY SUB=L31 SSS FUL L34 OR L36 OR L38 OR L39 OR  
L41 OR L42

=> d bib abs hitstr

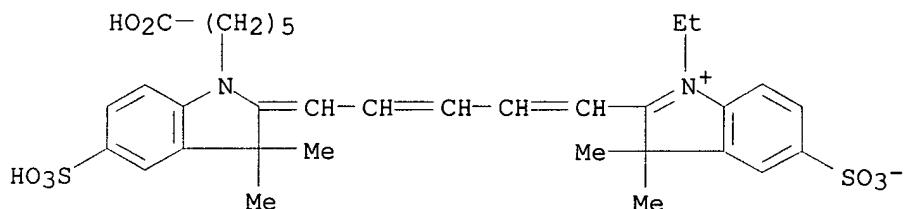
L63 ANSWER 1 OF 18 USPATFULL  
AN 2000:113658 USPATFULL  
TI Efficient activated cyanine dyes  
IN Reddy, M. Parameswara, Brea, CA, United States  
Michael, Maged A., Placentia, CA, United States  
Farooqui, Firdous, Brea, CA, United States  
Hanna, Naeem B., Fullerton, CA, United States  
PA Beckman Coulter, Inc., Fullerton, CA, United States (U.S. corporation)  
PI US 6110630 20000829  
AI US 1998-100150 19980618 (9)  
DT Utility  
EXNAM Primary Examiner: Riley, Jezia  
LREP May, William H.; Kivinski, Margaret A.  
CLMN Number of Claims: 33  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)  
LN.CNT 1116  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Activating groups based on N-hydroxynaphthalimide, are disclosed herein.

The activating groups can mediate the coupling of labeling moieties, such as biotin or cyanine dyes, to a variety of components, including chain terminators, nucleoside triphosphates, and oligonucleotides, which are used in nucleotide sequencing. From these activating groups, activated esters of the labeling moieties can be prepared. The activated esters react with a component, for example a derivatized nucleotide chain terminator, to give a labeled component. In addition, methods of the present invention provide for labeling a nucleoside triphosphate in organic media. The activating groups and methods of the present invention allow the activation and coupling reactions to occur at a much higher yield, compared with the prior art.

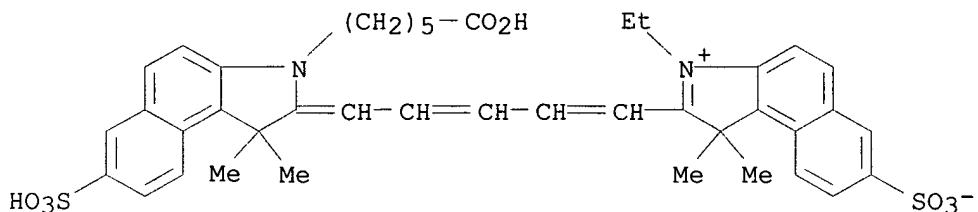
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-11-8 210834-24-5 252919-98-5  
252919-99-6  
(cyanine dyes activated for conjugation with nucleotides by naphthalimidyl ester groups)  
RN 146368-11-8 USPATFULL  
CN 3H-Indolium,  
2-[5-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



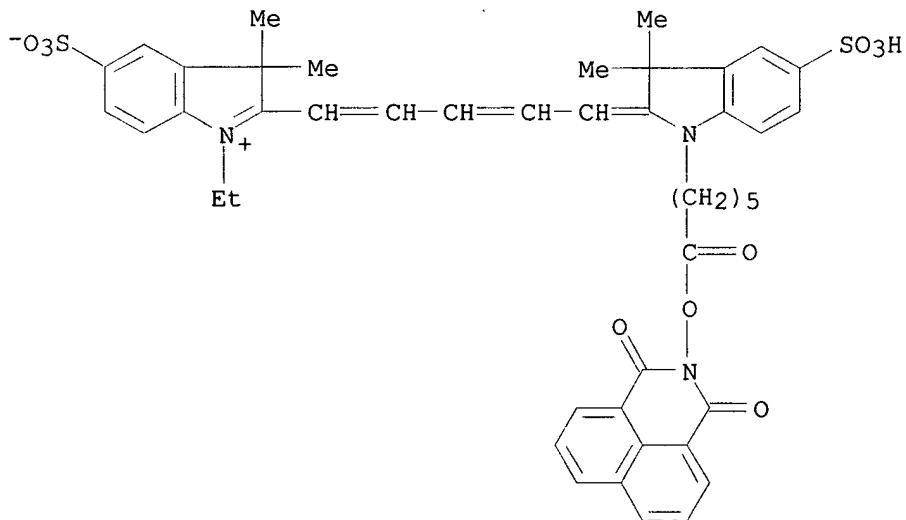
RN 210834-24-5 USPATFULL

CN 1H-Benz[e]indolium, 2-[5-[3-(5-carboxypentyl)-1,3-dihydro-1,1-dimethyl-7-sulfo-2H-benz[e]indol-2-ylidene]-1,3-pentadienyl]-3-ethyl-1,1-dimethyl-7-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 252919-98-5 USPATFULL

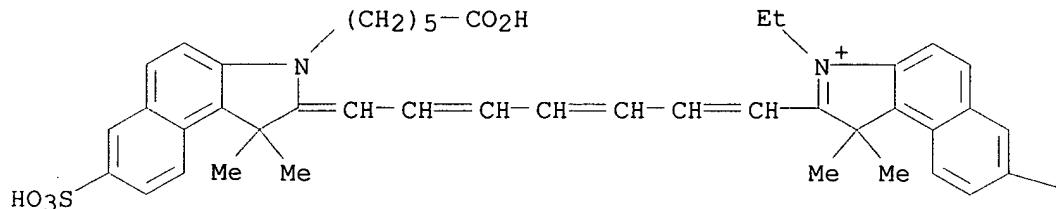
CN 3H-Indolium,  
2-[5-[1-[6-[(1,3-dioxo-1H-benz[de]isoquinolin-2(3H)-yl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 252919-99-6 USPATFULL

CN 1H-Benz[e]indolium, 2-[7-[3-(5-carboxypentyl)-1,3-dihydro-1,1-dimethyl-7-sulfo-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-3-ethyl-1,1-dimethyl-7-sulfo-, inner salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

 $\text{--SO}_3^-$

=> d bib abs hitstr 2

L63 ANSWER 2 OF 18 USPATFULL  
AN 2000:109572 USPATFULL  
TI Detection of transmembrane potentials by optical methods  
IN Tsien, Roger Y., La Jolla, CA, United States  
Gonzalez, III, Jesus E., La Jolla, CA, United States  
PA The Regents of the University of California, Oakland, CA, United States  
(U.S. corporation)  
PI US 6107066 20000822  
WO 9641166 19961219

AI US 1997-765860 19970508 (8)  
WO 1996-US9652 19960606  
19970508 PCT 371 date  
19970508 PCT 102(e) date

DT Utility  
EXNAM Primary Examiner: Ceperley, Mary E.  
LREP Gray Cary Ware & Freidenrich LLP; Haile, Lisa A.

CLMN Number of Claims: 35

ECL Exemplary Claim: 1

DRWN 26 Drawing Figure(s); 21 Drawing Page(s)

LN.CNT 2478

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions are provided for determining the potential of  
a membrane. In one aspect, the method comprises:

ion (a) introducing a first reagent comprising a hydrophobic fluorescent  
capable of redistributing from a first face of the membrane to a second  
face of the membrane in response to changes in the potential of the  
membrane, as described by the Nernst equation,

(b) introducing a second reagent which labels the first face or the  
second face of the membrane, which second reagent comprises a  
chromophore capable of undergoing energy transfer by either (i)  
donating

excited state energy to the fluorescent ion, or (ii) accepting excited  
state energy from the fluorescent ion,

(c) exposing the membrane to radiation;

second (d) measuring energy transfer between the fluorescent ion and the  
reagent, and

(e) relating the energy transfer to the membrane potential.

Energy transfer is typically measured by fluorescence resonance energy  
transfer. In some embodiments the first and second reagents are bound  
together by a suitable linker.

In one aspect the method is used to identify compounds which modulate  
membrane potentials in biological membranes.

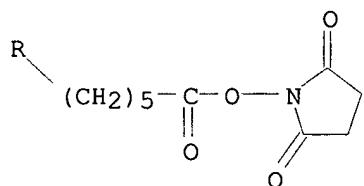
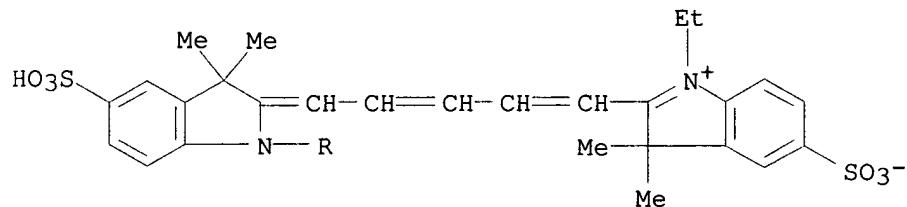
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1

(transmembrane potential detn. by fluorescence resonance energy transfer method)

RN 146368-14-1 USPATFULL

CN 3H-Indolium, 2-[5-{1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 3

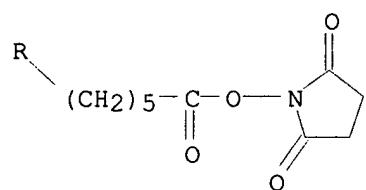
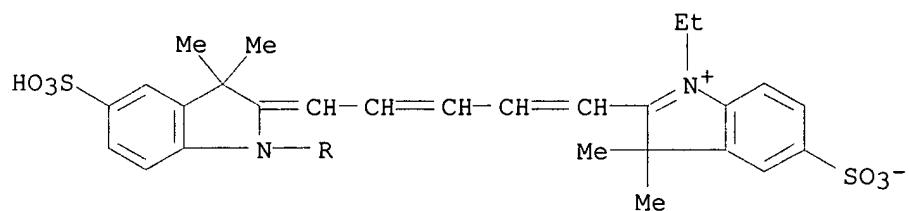
L63 ANSWER 3 OF 18 USPATFULL  
AN 2000:83827 USPATFULL  
TI Intramolecularly-quenched near infrared fluorescent probes  
IN Weissleder, Ralph, Charlestown, MA, United States  
Tung, Ching-Hsuan, Natick, MA, United States  
Mahmood, Umar, Boston, MA, United States  
Josephson, Lee, Arlington, MA, United States  
Bogdanov, Alexei, Arlington, MA, United States  
PA The General Hospital Corporation, Boston, MA, United States (U.S.  
corporation)  
PI US 6083486 20000704  
AI US 1998-79447 19980514 (9)  
DT Utility  
EXNAM Primary Examiner: Clardy, S. Mark; Assistant Examiner: Jones, Dameron  
LREP Fish & Richardson P.C.  
CLMN Number of Claims: 19  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Figure(s); 7 Drawing Page(s)  
LN.CNT 672

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An intramolecularly-quenched, near infrared fluorescence probe that emits substantial fluorescence only after interaction with a target tissue (i.e., activation) is disclosed. The probe includes a polymeric backbone and a plurality of near infrared fluorochromes covalently linked to the backbone at fluorescence-quenching interaction-permissive positions separable by enzymatic cleavage at fluorescence activation sites. The probe optionally includes protective chains or fluorochrome spacers, or both. Also disclosed are methods of using the intramolecularly-quenched, near infrared fluorescence probes for in vivo optical imaging.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1, Cy5  
(intramolecularly-quenched near IR fluorescent probes)  
RN 146368-14-1 USPATFULL  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 4

L63 ANSWER 4 OF 18 USPATFULL  
AN 2000:83423 USPATFULL  
TI Lapping control sensor for magnetoresistive effect head, lapping control

method using the sensor and manufacturing method of the sensor  
IN Fukuroi, Osamu, Tokyo, Japan

Nakagawa, Yoshiro, Tokyo, Japan

PA TDK Corporation, Tokyo, Japan (non-U.S. corporation)

PI US 6083081 20000704

AI US 1998-130446 19980806 (9)

PRAI JP 1997-224436 19970807

DT Utility

EXNAM Primary Examiner: Scherbel, David A.; Assistant Examiner: McDonald, Shantese

LREP Arent Fox Kintner Plotkin & Kahn PLLC

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 6 Drawing Page(s)

LN.CNT 368

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A lapping control sensor for a MR head includes a multi-layered structure of a metallic layer, an insulation layer, a resister layer and

a lead conductor layer, and being provided in parallel with the MR head which has a multi-layered structure of at least a lower shield layer, a shield gap insulation layer, a MR layer and a lead conductor layer is provided. The insulation layer of the lapping control sensor has a thickness larger than that of the shield gap insulation layer of the MR head. The thickness of the insulation layer of the sensor is 0.1 .mu.m or more.

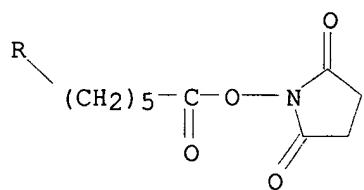
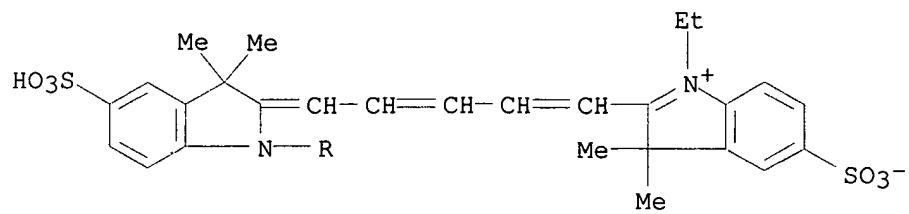
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1

(Cy5; solid phase selection of differentially expressed genes by competitive hybridization with ref. DNA cloned on microparticles)

RN 146368-14-1 USPATFULL

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 5

L63 ANSWER 5 OF 18 USPATFULL  
AN 2000:47052 USPATFULL  
TI Method and compound for detecting low levels of microorganisms  
IN Rocco, Richard M., Mountain View, CA, United States  
PA Biometric Imaging, Inc., Mountain View, CA, United States (U.S.  
corporation)  
PI US 6051395 20000418  
AI US 1998-206086 19981204 (9)  
PRAI US 1998-97864 19980825 (60)  
DT Utility  
EXNAM Primary Examiner: Gitomer, Ralph; Assistant Examiner: Moran, Marjorie  
A.

LREP Schneck, Thomas; Schneck, David M.

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN 4 Drawing Figure(s); 2 Drawing Page(s)

LN.CNT 431

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method and compound for detecting low levels of microorganisms in biological samples is disclosed. In the method, an antibiotic is conjugated to a detectable label. This antibiotic/label conjugate is then introduced into a sample containing biological material. The antibiotic binds to target microorganism where the label allows for detection of localized concentrations of the antibiotic. A compound to accomplish this method is also described. This compound is an antibiotic

conjugated to a fluorescent dye. This dye has an excitation and emission

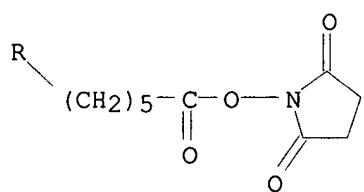
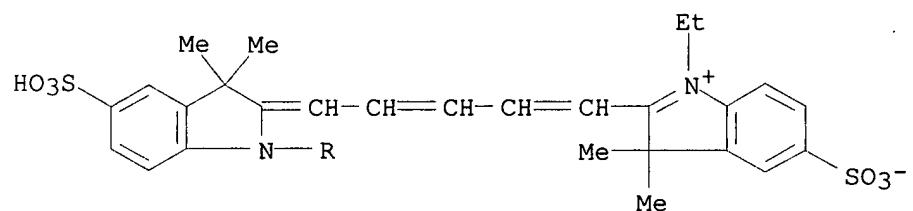
wavelength that are not interfered by substances typically found in biological samples.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1DP, Cy5, conjugates with polymyxin B  
(Cy5; method and labeled antibiotic compd. for detecting low levels of microorganisms)

RN 146368-14-1 USPATFULL

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 6

L63 ANSWER 6 OF 18 USPATFULL  
AN 2000:37593 USPATFULL  
TI Method of sequencing nucleic acids by shift registering  
IN McCormick, Randy M., Santa Clara, CA, United States  
Briggs, Jonathan, Los Altos Hills, CA, United States  
PA Aclara Biosciences, Mountain View, CA, United States (U.S. corporation)  
PI US 6043036 20000328  
AI US 1997-977931 19971124 (8)  
RLI Continuation of Ser. No. US 1996-636414, filed on 23 Apr 1996, now  
abandoned  
DT Utility  
EXNAM Primary Examiner: Horlick, Kenneth R.  
LREP McDonnell Boehnen Hulbert & Berghoff  
CLMN Number of Claims: 28  
ECL Exemplary Claim: 1  
DRWN 6 Drawing Figure(s); 14 Drawing Page(s)  
LN.CNT 1570

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes a method of sequencing nucleic acids in which mixtures of oligonucleotide fragments are derived from sequencing reactions using **combinations** of the 2',3'-dideoxynucleoside 5'-triphosphate or 3' deoxynucleoside 5'-triphosphate terminators and appropriate concentrations of four dNTPs (2'-deoxynucleoside 5' triphosphates, e.g., dATP, dCTP, dGTP, dTTP, dITP, 7-deaza-GTP). These fragments are generated by enzymatic extension of a primer hybridized

to

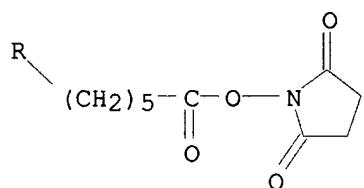
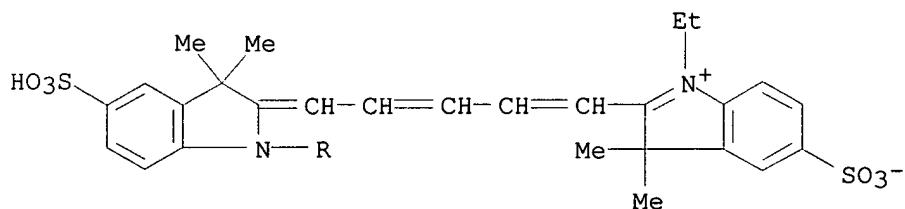
the single-stranded template DNA to be sequenced. In contrast to common slab gel sequencing methods, the method of the instant invention does not require precise alignment of the four separation sets of the terminated fragments to permit deduction of the DNA sequence. In addition, the method possesses inherent redundancy in the separations, which facilitates sequence assignment by resolving sequence uncertainties or anomalies.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

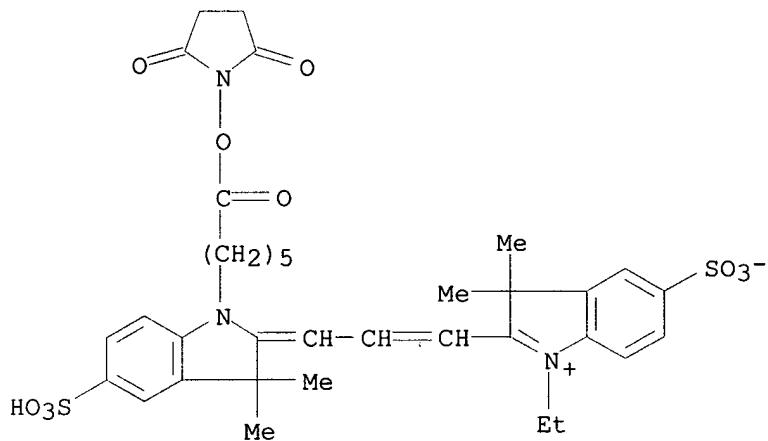
IT 146368-14-1D, FluoroLink Mono Reactive Dye Cy5, conjugate with sequencing primers 146368-16-3D, FluoroLink Mono Reactive Dye Cy3, conjugate with sequencing primers  
(method of sequencing nucleic acids by applying a computer alignment algorithm to electrophoretic sepn. patterns of dideoxy-terminated fragment mixts.)

RN 146368-14-1 USPATFULL

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

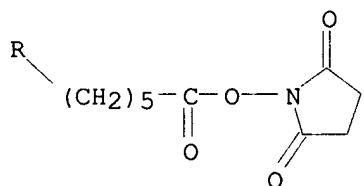
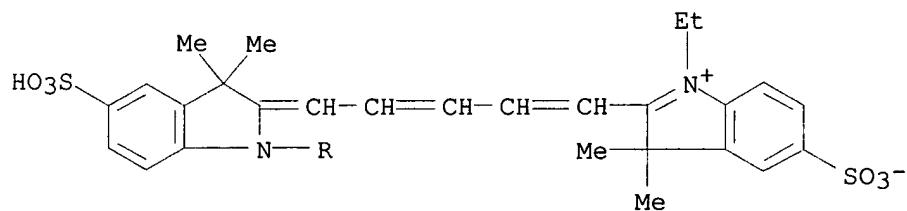


RN 146368-16-3 USPATFULL  
 CN 3H-Indolium, 2-[3-[1-[6-[2,5-dioxo-1-pyrrolidinyl]oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

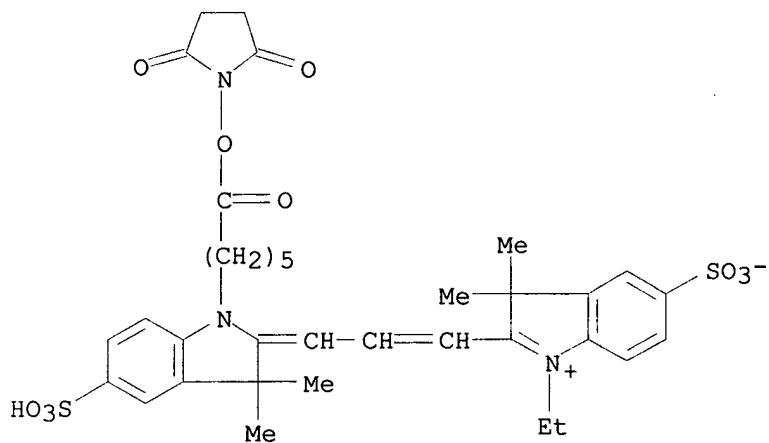


=> d bib abs hitstr 7

L63 ANSWER 7 OF 18 USPATFULL  
AN 1999:170387 USPATFULL  
TI Multiparametric fluorescence in situ hybridization  
IN Ward, David C., Madison, CT, United States  
Speicher, Michael, Riemerling, Germany, Federal Republic of  
Ballard, Stephen Gwyn, Hamden, CT, United States  
Wilson, John T., St. Simon Is., GA, United States  
PA Yale University, New Haven, CT, United States (U.S. corporation)  
PI US 6007994 19991228  
AI US 1998-88845 19980602 (9)  
RLI Continuation-in-part of Ser. No. US 1998-88087, filed on 1 Jun 1998,  
now abandoned which is a continuation-in-part of Ser. No. US 1996-640657,  
filed on 1 May 1996, now patented, Pat. No. US 5759781 which is a  
continuation-in-part of Ser. No. US 1995-580717, filed on 29 Dec 1995,  
now abandoned which is a continuation-in-part of Ser. No. US  
1995-577622, filed on 22 Dec 1995, now abandoned  
DT Utility  
EXNAM Primary Examiner: Brusca, John S.  
LREP Howrey & Simon; Auerbach, Jeffrey I.  
CLMN Number of Claims: 58  
ECL Exemplary Claim: 25  
DRWN 27 Drawing Figure(s); 11 Drawing Page(s)  
LN.CNT 3572  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The invention relates to a set of **combinatorially** labeled  
oligonucleotide probes each member thereof: (i) having a predetermined  
label distinguishable from the label of any other member of said set,  
and (ii) being capable of specifically hybridizing with a predetermined  
chromosome or nucleic acid molecule, and to the use of such molecules,  
alone or in concert with nucleic acid amplification methods.  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
IT 146368-14-1, FluoroLink Mono Reactive Dye Cy5 146368-16-3  
, FluoroLink Mono Reactive Dye Cy3  
(as fluorescent label for probes; multiparametric fluorescence in situ  
hybridization for identification of human chromosomes and microbial  
nucleic acids)  
RN 146368-14-1 USPATFULL  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-  
ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



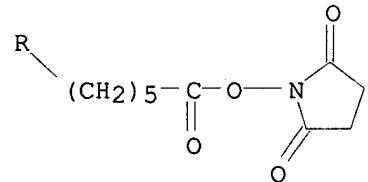
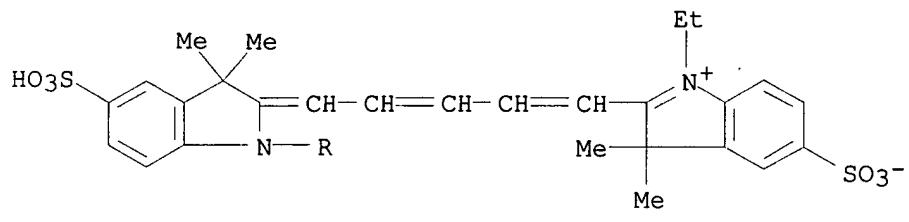
RN 146368-16-3 USPATFULL  
 CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 8

L63 ANSWER 8 OF 18 USPATFULL  
AN 1999:155473 USPATFULL  
TI Simultaneous analyses of white blood cell subsets using multi-color,  
multi-intensity fluorescent markers in flow cytometry  
IN Siiman, Olavi, Davie, FL, United States  
Burshteyn, Alexander, Hialeah, FL, United States  
Wilkinson, Julie, Weston, FL, United States  
Mylvaganam, Ravindra, Hollywood, FL, United States  
PA Coulter International Corp., Miami, FL, United States (U.S.  
corporation)  
PI US 5994089 19991130  
AI US 1997-976031 19971121 (8)  
RLI Continuation-in-part of Ser. No. US 1997-857941, filed on 16 May 1997,  
now patented, Pat. No. US 5891741  
DT Utility  
EXNAM Primary Examiner: Chin, Christopher L.  
LREP Bak, Mary E.; Kurz, Warren W.  
CLMN Number of Claims: 5  
ECL Exemplary Claim: 1  
DRWN 34 Drawing Figure(s); 16 Drawing Page(s)  
LN.CNT 1400  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A method for a single-measurement quantification of multiple  
populations  
pairs of white blood cells (WBC) is based upon the labeling of different  
of cell populations, each pair containing mutually exclusive cell  
receptors which are expressed at substantially similar receptor  
densities with labeled ligands for each receptor. One cell population  
is labeled with a ligand capable of binding to a first cell surface  
receptor which ligand is directly conjugated to a fluorescent  
phycobiliprotein or tandem dye; and a second cell population is labeled  
with a ligand capable of binding to a second cell surface receptor,  
which ligand is cross-linked by an aminodextran to a fluorescent  
phycobiliprotein or tandem dye. The phycobiliproteins upon laser  
excitation produce a different detectable fluorescence intensity for  
each cell population. Use of such pairs of conjugates enable two  
populations of cells with similar receptor densities to be  
distinguished  
with the use of a single color marker. Further use of additional  
ligands to other cell surface receptors and additional phycobiliprotein or  
tandem dye, or other markers in the same manner, enables the  
simultaneous quantification of up to 45 different cell populations with  
one laser line and four fluorescent colors.  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
IT 146368-14-1D, CY5, derivs., conjugates with phycoerythrins and  
aminodextran-ligand conjugate  
(simultaneous analyses of white blood cell subsets using multi-color,  
multi-intensity fluorescent markers in flow cytometry)  
RN 146368-14-1 USPATFULL  
Searched by John Dantzman 703-308-4488

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



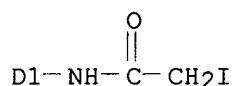
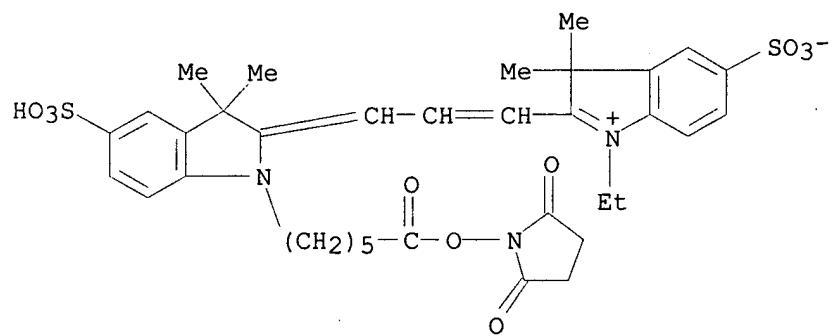
=> d bib abs hitstr 9

L63 ANSWER 9 OF 18 USPATFULL  
AN 1999:110226 USPATFULL  
TI Enzyme-based fluorescence biosensor for chemical analysis  
IN Thompson, Richard B., 7106 Bristol Rd., Baltimore, MD, United States  
21212  
Patchan, Marcia W., 9651 Hingston Downs, Columbia, MD, United States  
21046  
Ge, Zhengfang, 3D Beacon Village, Burlington, MA, United States 01803  
PI US 5952236 19990914  
AI US 1996-736904 19961025 (8)  
PRAI US 1995-5879 19951026 (60)  
DT Utility  
EXNAM Primary Examiner: Achutamurthy, Ponnathapura; Assistant Examiner:  
Wiessendorf, T. D.  
CLMN Number of Claims: 7  
ECL Exemplary Claim: 1  
DRWN 16 Drawing Figure(s); 16 Drawing Page(s)  
LN.CNT 865  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB This invention generally relates to the detection, determination, and  
quantitation of certain ions and small molecules involving the  
quenching  
of a fluorescent label attached to a macromolecule, often due to  
fluorescence energy transfer to a colored inhibitor or certain metal  
ions bound to the macromolecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 241483-43-2  
(photoluminescent label; metal ions detn. water by biosensor based on  
fluorescence quenching of fluorescent label attached to macromol. due  
to fluorescence energy transfer to colored inhibitor or metal ions  
bound to macromol.)

RN 241483-43-2 USPATFULL  
CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-  
dimethyl-5-sulfo-, inner salt, mono[(iodoacetyl)amino] deriv. (9CI)  
(CA  
INDEX NAME)

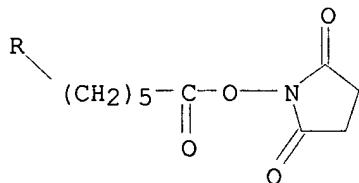
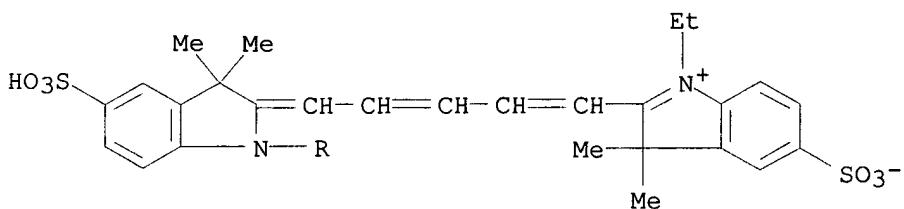


=> d bib abs hitstr 10

L63 ANSWER 10 OF 18 USPATFULL  
 AN 1999:102680 USPATFULL  
 TI Method for distinguishing viable, early apoptotic, late apoptotic, and necrotic cells  
 IN Bolton, Wade E., Plantation, FL, United States  
     Koester, Steven K., Pembroke Pines, FL, United States  
 PA Coulter International Corp., Miami, FL, United States (U.S.  
 corporation)  
 PI US 5945291 19990831  
 AI US 1997-966937 19971110 (8)  
 DT Utility  
 EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Bansal, Geetha P.  
 LREP Kodroff, Cathy A.  
 CLMN Number of Claims: 19  
 ECL Exemplary Claim: 1,14,19  
 DRWN 4 Drawing Figure(s); 1 Drawing Page(s)  
 LN.CNT 516  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB The present invention provides a method for distinguishing between viable, early apoptotic, late apoptotic and necrotic cells utilizing multi-color immunofluorescence.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1, Cy5  
 (Cy 5; distinguishing of viable, early apoptotic and necrotic cells by immunofluorescence staining)  
 RN 146368-14-1 USPATFULL  
 CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



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09/448420

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Searched by John Dantzman 703-308-4488

=> d bib abs hitstr 11

L63 ANSWER 11 OF 18 USPATFULL  
AN 1999:97615 USPATFULL  
TI Liquid immersion development machine having a multiple zone image development and conditioning apparatus  
IN Domoto, Gerald A., Briarcliff Manor, NY, United States  
Hauser, Oscar G., Rochester, NY, United States  
Wang, F. James, Pittsford, NY, United States  
PA Xerox Corporation, Stamford, CT, United States (U.S. corporation)  
PI US 5940665 19990817  
AI US 1998-92512 19980605 (9)  
DT Utility  
EXNAM Primary Examiner: Grimley, Arthur T.; Assistant Examiner: Chen, Sophia S.

LREP Nguti, Tallam I.

CLMN Number of Claims: 11

ECL Exemplary Claim: 1

DRWN 4 Drawing Figure(s); 4 Drawing Page(s)

LN.CNT 690

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A single image development and conditioning apparatus is disclosed for removing excess liquid carrier from a developed image developed in a liquid immersion development machine using liquid developer material having a first toner concentration. The single image development and conditioning apparatus includes a first zone located downstream of a coating device relative to a direction of movement of a surface bearing the developed image, a second zone located downstream of the first zone,

and a third zone located downstream of the second zone. The first zone includes a first biased electrode for partially removing charged solid toner particles from background areas of the developed image. The second

zone includes a second biased electrode for completing removal of charged solid toner particles from the background areas, and the third zone includes a third biased electrode. The first, second and third zones are arranged and biased so as to enable (i) removal, from the background areas, of liquid developer material consisting of liquid carrier and charged solid toner particles, and (ii) removal, from the image areas only, of excess carrier liquid, thereby creating a resulting

toner image having a toner concentration significantly higher than the first toner concentration of the liquid developer material.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 209340-49-8, BODIPY 630/650

(BODIPY 630/650, fluorescent indicator; methods for detg.  
cross-hybridization based on dissocn. kinetics)

RN 209340-49-8 USPATFULL

CN Borate(1-), difluoro[6-[[4-[2-[2-[[5-(2-thienyl)-1H-pyrrol-2-yl-

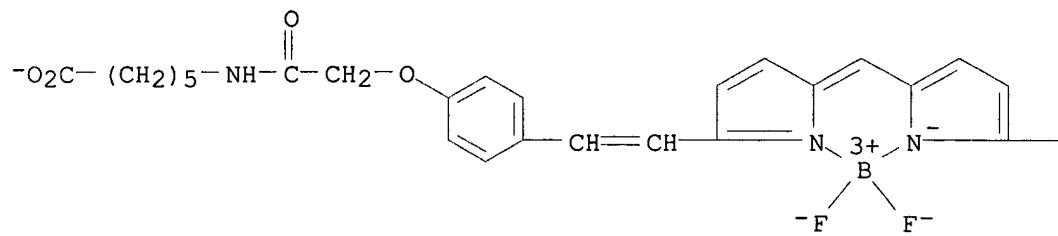
.kappa.N]methylene]-2H-pyrrol-5-yl-.kappa.N]ethenyl]phenoxy]acetyl]amino  
]hexanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PONNALURI

09/448420

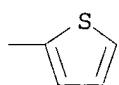
Page 23

PAGE 1-A



●  $H^+$

PAGE 1-B



=> d bib abs hitstr 12

L63 ANSWER 12 OF 18 USPATFULL  
AN 1999:27410 USPATFULL  
TI **High-throughput assay**  
IN Burbaum, Jonathan J., Cranbury, NJ, United States  
Chung, Thomas D.Y., Wilmington, DE, United States  
Kirk, Gregory L., Skillman, NJ, United States  
Inglese, James, Dayton, NJ, United States  
Chelsky, Daniel, Moylan, PA, United States  
PA Pharmacopeia, Inc., Princeton, NJ, United States (U.S. corporation)  
PI US 5876946 19990302  
AI US 1997-868280 19970603 (8)

DT Utility

EXNAM Primary Examiner: Stucker, Jeffrey

LREP Darby & Darby

CLMN Number of Claims: 38

ECL Exemplary Claim: 1

DRWN 8 Drawing Figure(s); 6 Drawing Page(s)

LN.CNT 1049

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A homogeneous **high throughput assay** is described which screens compounds for enzyme inhibition, or receptor or other target binding. Inhibition (or binding) by the **library** compounds causes a change in the amount of an optically detectable

label

that is bound to suspendable cells or solid supports. The amounts of label bound to individual cells or solid supports are microscopically determined, and compared with the amount of label that is not bound to individual cells or solid supports. The degree of inhibition or binding is determined using this data. Confocal microscopy, and subsequent data analysis, allow the assay to be carried out without any separation

step,

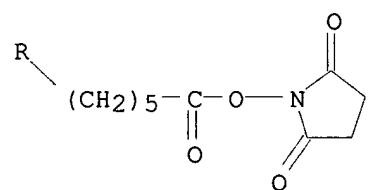
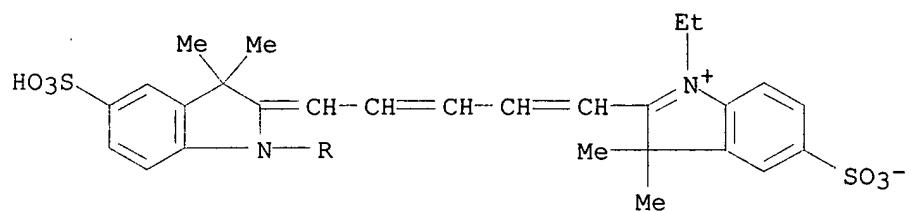
and provide for **high throughput** screening of very small assay volumes using very small amounts of test compound.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1D, Cy5, conjugates with neurokinin A and IL-8 (Cy5; high-throughput assay for enzyme inhibitors and receptor- and target-binding ligands)

RN 146368-14-1 USPATFULL

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

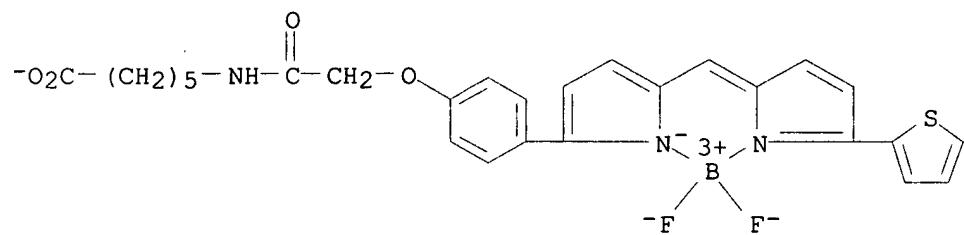


=> d bib abs hitstr 13

L63 ANSWER 13 OF 18 USPATFULL  
AN 1999:7274 USPATFULL  
TI Alternative dye-labeled primers for automated DNA sequencing  
IN Metzker, Michael L., Houston, TX, United States  
Gibbs, Richard A., Houston, TX, United States  
PA Baylor College of Medicine, Houston, TX, United States (U.S.  
corporation)  
PI US 5861287 19990119  
AI US 1995-540228 19951006 (8)  
RLI Continuation-in-part of Ser. No. US 1995-494216, filed on 23 Jun 1995,  
now patented, Pat. No. US 5614386  
DT Utility  
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Rees, Dianne  
LREP Fulbright & Jaworski LLP  
CLMN Number of Claims: 19  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 12 Drawing Page(s)  
LN.CNT 1256  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Methods for the use of a class of dyes for improved DNA sequencing are  
provided. A new class of dyes, BODIPY.RTM. fluorophores, has been  
described recently. The parent heterocyclic molecule of the BODIPY.RTM.  
fluorophores is a dipyrrometheneboron difluoride compound which is  
modified to create a broad class of spectrally-discriminating  
fluorophores. The present invention provides methods for the use of  
BODIPY.RTM. fluorophore-labeled DNA for dye-primer sequencing in which  
the BODIPY.RTM.s are attached to the 5' end of sequencing primers.  
BODIPY.RTM. fluorophores have improved spectral characteristics  
compared  
to conventional fluorescein and rhodamine dyes. BODIPY.RTM.  
fluorophores  
have narrower band width, insensitivity to solvent or pH, and improved  
photostability, thus, BODIPY.RTM. fluorophores lead to improved DNA  
sequencing and/or detection in any method where electrophoresis and  
detection of DNA is required. Additionally, the spectral properties of  
the BODIPY.RTM. fluorophores are sufficiently similar in wavelength and  
intensity to be used with conventional equipment known in the art.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

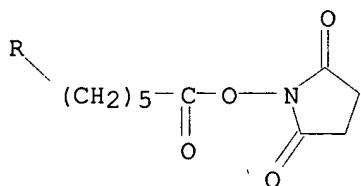
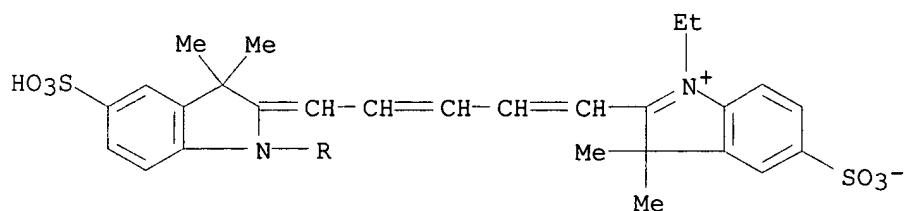
IT 186961-29-5, Bodipy 589/616  
(as label; BODIPY fluorophore labels and alternative dye-labeled  
primers for automated DNA sequencing)  
RN 186961-29-5 USPATFULL  
CN Borate(1-), difluoro[6-[[4-[5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-  
.kappa.N]methyl]-1H-pyrrol-2-yl-.kappa.N]phenoxy]acetyl]amino]hexanoato(2-)], hydrogen, (T-4)- (9CI) (CA INDEX NAME)



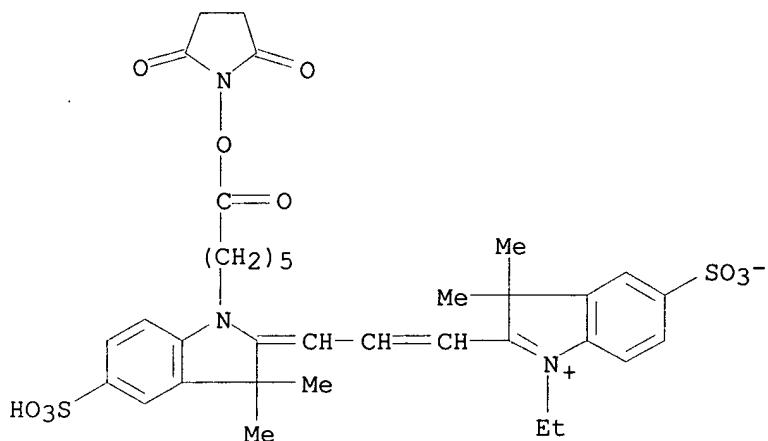
● H<sup>+</sup>

=> d bib abs hitstr 14

L63 ANSWER 14 OF 18 USPATFULL  
AN 1998:162256 USPATFULL  
TI Use of nucleic acid ligands in flow cytometry  
IN Davis, Ken, Los Altos, CA, United States  
Jayasena, Sumedha, Boulder, CO, United States  
Gold, Larry, Boulder, CO, United States  
PA NeXstar Pharmaceuticals, Inc., Boulder, CO, United States (U.S.  
corporation)  
PI US 5853984 19981229  
AI US 1995-479729 19950607 (8)  
RLI Continuation-in-part of Ser. No. US 1992-964624, filed on 21 Oct 1992,  
now patented, Pat. No. US 5496938 Ser. No. Ser. No. US 1994-199507,  
filed on 22 Feb 1994, now patented, Pat. No. US 5472841 Ser. No. Ser.  
No. US 1994-234997, filed on 28 Apr 1994, now patented, Pat. No. US  
5683867 And Ser. No. US 1991-714131, filed on 10 Jun 1991, now  
patented,  
Pat. No. US 5475096 which is a continuation-in-part of Ser. No. US  
1990-536428, filed on 11 Jun 1990, now abandoned  
DT Utility  
EXNAM Primary Examiner: Zitomer, Stephanie W.; Assistant Examiner: Tung,  
Joyce  
LREP Swanson & Bratschun LLC  
CLMN Number of Claims: 14  
ECL Exemplary Claim: 1  
DRWN 6 Drawing Figure(s); 4 Drawing Page(s)  
LN.CNT 1072  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB This invention discloses the use of high-affinity oligonucleotide  
ligands in flow cytometry diagnostic applications. Specifically, DNA  
ligands having one or more fluorophore molecules attached are disclosed  
which are useful in flow cytometry.  
  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
IT 146368-14-1 146368-16-3  
(use of nucleic acid ligands in flow cytometry)  
RN 146368-14-1 USPATFULL  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-  
ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 USPATFULL  
CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 15

L63 ANSWER 15 OF 18 USPATFULL  
AN 1998:104569 USPATFULL  
TI Energy transfer dyes with enhanced fluorescence  
IN Lee, Linda G., Palo Alto, CA, United States  
Spurgeon, Sandra L., San Mateo, CA, United States  
Rosenblum, Barnett, San Jose, CA, United States  
PA The Perkin Elmer Corporation, Foster City, CA, United States (U.S.  
corporation)  
PI US 5800996 19980901  
AI US 1996-726462 19961004 (8)  
RLI Continuation-in-part of Ser. No. US 1996-642330, filed on 3 May 1996  
And Ser. No. US 1996-672196, filed on 27 Jun 1996

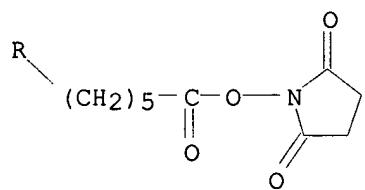
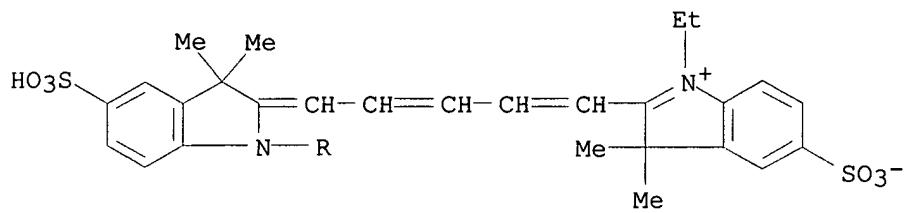
DT Utility  
EXNAM Primary Examiner: Houtteman, Scott W.  
LREP Wilson Sonsini Goodrich & Rosati  
CLMN Number of Claims: 79  
ECL Exemplary Claim: 1,76  
DRWN 28 Drawing Figure(s); 16 Drawing Page(s)  
LN.CNT 2556

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel linkers for linking a donor dye to an acceptor dye in an energy transfer fluorescent dye are provided. These linkers facilitate the efficient transfer of energy between a donor and acceptor dye in an energy transfer dye. One of these linkers for linking a donor dye to an acceptor dye in an energy transfer fluorescent dye has the general structure R<sub>1</sub>.sub.21 Z<sub>1</sub>.sub.1 C(O)R<sub>2</sub>.sub.22 R<sub>3</sub>.sub.28 where R<sub>1</sub>.sub.21 is a C<sub>1</sub>.sub.1-5 alkyl attached to the donor dye, C(O) is a carbonyl group, Z<sub>1</sub>.sub.1 is either NH, sulfur or oxygen, R<sub>2</sub>.sub.22 is a substituent which includes an alkene, diene, alkyne, a five and six membered ring having at least one unsaturated bond or a fused ring structure which is attached to the carbonyl carbon, and R<sub>3</sub>.sub.28 includes a functional group which attaches the linker to the acceptor dye.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1P  
(energy transfer dyes with enhanced fluorescence)  
RN 146368-14-1 USPATFULL  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 16

L63 ANSWER 16 OF 18 USPATFULL  
AN 1998:27911 USPATFULL  
TI Alternative dye-labeled ribonucleotides, deoxyribonucleotides, and dideoxyribonucleotides for automated DNA analysis  
IN Metzker, Michael L., Houston, TX, United States  
Gibbs, Richard A., Houston, TX, United States  
PA Baylor College Of Medicine, Houston, TX, United States (U.S. corporation)  
PI US 528529 19980317  
AI US 1995-553936 19951106 (8)  
RLI Continuation-in-part of Ser. No. US 1995-494216, filed on 23 Jun 1995, now patented, Pat. No. US 5614386  
DT Utility  
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Rees, Dianne  
LREP Fulbright & Jaworski L.L.P.  
CLMN Number of Claims: 17  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)  
LN.CNT 940  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Methods for the use of a class of dyes for improved DNA sequencing by the chain termination method of DNA sequencing, and internal labelling of polynucleotides by enzymatic incorporation of fluorescently-labeled ribonucleotides or deoxyribonucleotides are provided. A new class of dyes, BODIPY.RTM. fluorophores, has been described recently. The parent heterocyclic molecule of the BODIPY.RTM. fluorophores is a dipyrrometheneboron difluoride compound which is modified to create a broad class of spectrally-discriminating fluorophores. BODIPY.RTM. fluorophores have improved spectral characteristics compared to conventional fluorescein and rhodamine dyes. BODIPY.RTM. fluorophores have narrower band width, insensitivity to solvent or pH, and improved photostability, thus, BODIPY.RTM. fluorophores lead to improved DNA sequencing and/or detection in any method where electrophoresis and detection of DNA is required. Additionally, the spectral properties of the BODIPY.RTM. fluorophores are sufficiently similar in wavelength and intensity to be used with conventional equipment known in the art.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 186961-29-5DP, oligonucleotide primers labeled with (BODIPY 589/616; alternative dye-labeled primers, ribonucleotides, deoxyribonucleotides, and dideoxyribonucleotides for automated DNA anal. and homogeneous amplification/detection assays)

RN 186961-29-5 USPATFULL

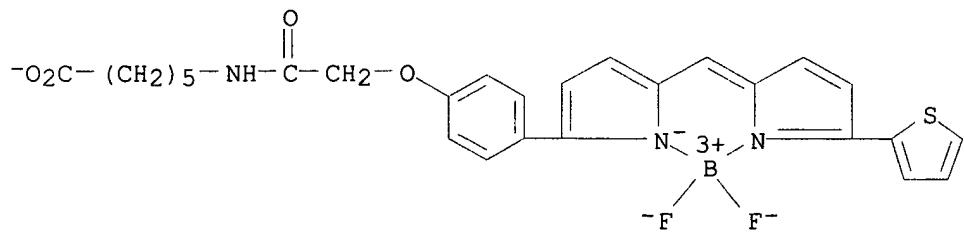
CN Borate(1-), difluoro[6-[[4-[5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-

.kappa.N]methyl]-1H-pyrrol-2-yl-.kappa.N]phenoxy]acetyl]amino]hexanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PONNALURI

09/448420

Page 33



● H<sup>+</sup>

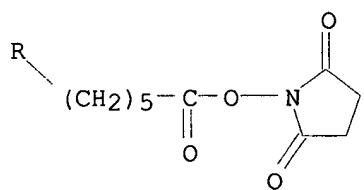
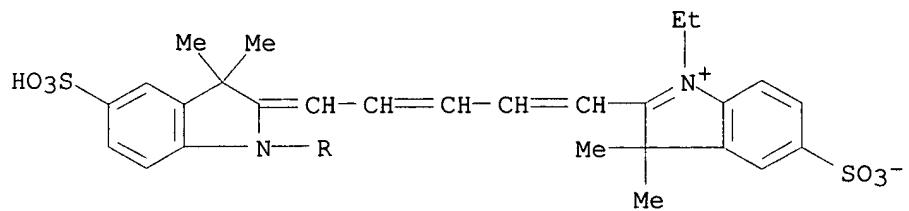
=> d bib abs hitstr 17

L63 ANSWER 17 OF 18 USPATFULL  
AN 97:76020 USPATFULL  
TI Voltage sensing by fluorescence resonance energy transfer  
IN Tsien, Roger Y., La Jolla, CA, United States  
Gonzalez, III, Jesus E., La Jolla, CA, United States  
PA The Regents of the University of California, Oakland, CA, United States  
(U.S. corporation)  
PI US 5661035 19970826  
AI US 1995-481977 19950607 (8)  
DT Utility  
EXNAM Primary Examiner: Snay, Jeffrey  
LREP Townsend & Townsend & Crew LLP  
CLMN Number of Claims: 6  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Figure(s); 9 Drawing Page(s)  
LN.CNT 1186  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Compositions and methods for use in generating fast ratiometric voltage-sensitive fluorescence changes in single or multiple cells systems. A first reagent is a membrane-bound hydrophobic fluorescent anion which rapidly redistributes from one face of the plasma membrane to the other in response to the transmembrane potential, as described by

the Nernst equation. A voltage-sensitive fluorescent readout is created by labeling the intracellular or extracellular surface of the cell with a second reagent comprising a fluorophore which can undergo energy transfer with the first reagent or a quencher for the first reagent. Quenching or FRET between the two reagents is disrupted when the membrane potential is depolarized, because the anionic first reagent is pulled to the intracellular surface of the plasma membrane far from the asymmetrically bound second reagent. In preferred embodiments of the invention, the first and second reagents are bound together by a suitable linker group.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146368-14-1  
(transmembrane potential detn. by fluorescence resonance energy transfer method)  
RN 146368-14-1 USPATFULL  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 18

L63 ANSWER 18 OF 18 USPATFULL  
AN 97:24903 USPATFULL  
TI Alternative dye-labeled primers for automated DNA sequencing  
IN Metzker, Michael L., Houston, TX, United States  
Gibbs, Richard A., Houston, TX, United States  
PA Baylor College of Medicine, Houston, TX, United States (U.S.  
corporation)  
PI US 5614386 19970325  
AI US 1995-494216 19950623 (8)  
DT Utility  
EXNAM Primary Examiner: Zitomer, Stephanie W.; Assistant Examiner: Rees,  
Dianne

LREP Fulbright & Jaworski L.L.P.

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN 11 Drawing Figure(s); 11 Drawing Page(s)

LN.CNT 990

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

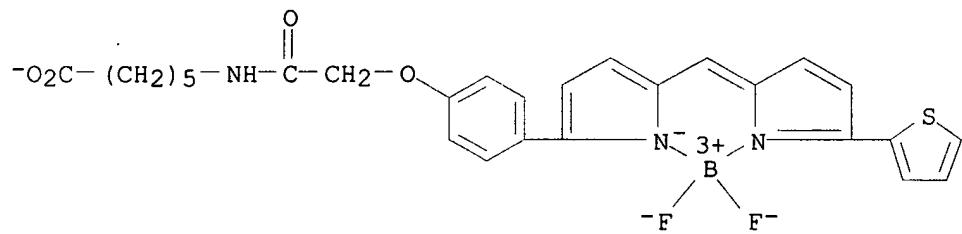
AB Methods for the use of a class of dyes for improved DNA sequencing are provided. A new class of dyes, BODIPY.RTM. fluorophore, has been described recently. The parent heterocyclic molecule of the BODIPY.RTM. fluorophore is a dipyrrometheneboron difluoride compound which is modified to create a broad class of spectrally-discriminating fluorophores. The present invention provides methods for the use of BODIPY.RTM. fluorophore-labeled DNA. BODIPY.RTM. fluorophore have improved spectral characteristics compared to conventional fluorescein and rhodamine dyes. BODIPY.RTM. fluorophore have narrower band width, insensitivity to solvent or pH, and improved photostability, thus, BODIPY.RTM. fluorophores lead to improved DNA sequencing and/or detection in any method where electrophoresis and detection of DNA is required. Additionally, the spectral properties of the BODIPY.RTM. fluorophores are sufficiently similar in wavelength and intensity to be used with conventional equipment known in the art.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 186961-29-5DP, oligonucleotide primers labeled with  
(BODIPY 589/616; alternative dye-labeled primers, ribonucleotides,  
deoxyribonucleotides, and dideoxyribonucleotides for automated DNA  
anal. and homogeneous amplification/detection assays)

RN 186961-29-5 USPATFULL

CN Borate(1-), difluoro[6-[[4-[5-[(2-thienyl)-2H-pyrrol-2-ylidene-  
.kappa.N]methyl]-1H-pyrrol-2-yl-.kappa.N]phenoxy]acetyl]amino]hexanoato(2-)]-, hydrogen, (T-4)-(9CI) (CA INDEX NAME)



● H<sup>+</sup>

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Searched by John Dantzman 703-308-4488

=> d bib abs hitstr

L55 ANSWER 1 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:608989 HCPLUS  
 DN 133:203805  
 TI Single nucleotide polymorphisms detection by sandwich nucleic acid hybridization  
 IN Arnold, Lyle; Theriault, Thomas; Bedilion, Tod  
 PA Incyte Pharmaceuticals, Inc., USA  
 SO PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000050869	A2	20000831	WO 2000-US4876	20000224
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

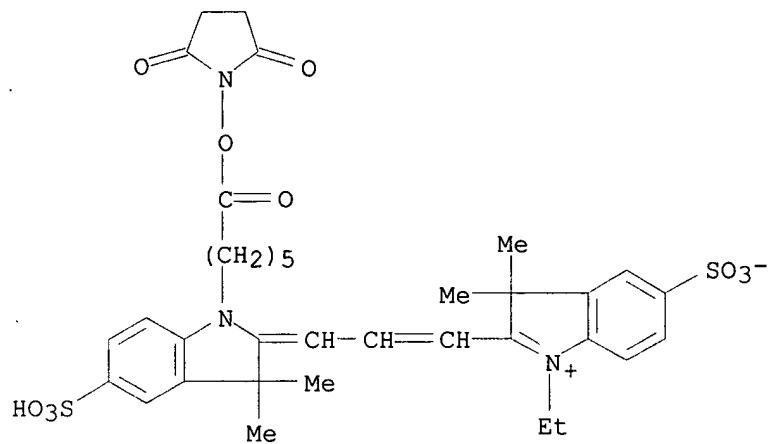
PRAI US 1999-259898 19990226

AB The invention provides methods, compns. and systems for detecting multiple

single nucleotide polymorphisms (SNPs) in a population of target polynucleotides in parallel in a sandwich assay employing SNP probes, capture polynucleotides and, optionally, auxiliary polynucleotides. The relative affinities of the SNP probes for the corresponding SNP regions can be increased with reagents which normalize the melting temps. of the probes and/or by positionally facilitating interactions between the SNP probe, the SNP region, the capture polynucleotide and/or the auxiliary polynucleotides, such as through a minor groove binder. The probes may comprise a degenerate set of all possible same-sized polynucleotides and the capture polynucleotides are generally immobilized and arrayed at corresponding discrete elements in high d.

IT 146368-16-3, Cy3  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (conjugation to oligonucleotide, signal of hybridization; single nucleotide polymorphisms detection by sandwich nucleic acid hybridization)

RN 146368-16-3 HCPLUS  
 CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



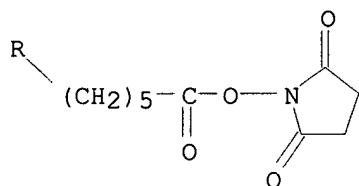
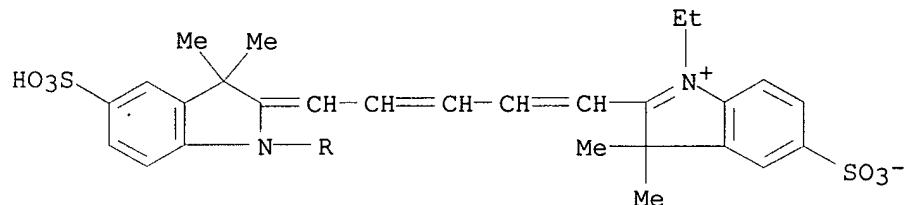
=> d bib abs hitstr 2

L55 ANSWER 2 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:441969 HCPLUS  
 DN 133:86486  
 TI **High throughput assay system using Multi Array**  
 Plate Screen, nuclease protection, oligonucleotide anchors, bifunctional  
 linkers, and mass spectrometry  
 IN Kris, Richard M.; Felder, Stephen  
 PA USA  
 SO PCT Int. Appl., 111 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000037684	A1	20000629	WO 1999-US30515	19991222
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI US 1998-218166 19981222  
 AB The present invention relates to compns., app. and methods useful for  
 concurrently performing multiple, **high throughput**,  
 biol. or chem. assays, using repeated **arrays** of probes, called  
**Multi Array** Plate Screen (MAPS). A **combination** of the  
 invention comprises a surface, which comprises a plurality of test  
 regions, at least two of which, and in a preferred embodiment, at least  
 twenty of which, are substantially identical, wherein each of the test  
 regions comprises an **array** of generic anchor mols. The anchors  
 are assocd. with bifunctional linker mols., each contg. a portion which  
 is  
 specific for at least one of the anchors and a portion which is a probe  
 specific for a target of interest. The resulting **array** of  
 probes is used to analyze the presence or test the activity of one or  
 more  
 target mols. which specifically interact with the probes. In one  
 embodiment of the invention, the test regions (which can be wells) are  
 further subdivided into smaller subregions (indentations, or dimples).  
 In  
 one embodiment of the invention, ESTs are mapped. In another embodiment,  
 the presence of a target nucleic acid is detected by protecting the  
 target  
 against nuclease digestion with a polynucleotide fragment, and analyzing  
 the protected polynucleotide by mass spectrometry.  
 IT 146368-14-1, Cy5  
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified);  
 ANST  
 (Analytical study); BIOL (Biological study); USES (Uses)  
 Searched by John Dantzman 703-308-4488

(Cy5, fluorescent probe; **high throughput** assay  
 system using Multi **Array** Plate Screen, nuclease protection,  
 oligonucleotide anchors, bifunctional linkers, and mass spectrometry)  
 RN 146368-14-1 HCAPLUS  
 CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
 dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
 3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 11

RE

- (1) Affymax Tech Nv; EP 0721016 A 1996
- (2) Blok, H; WO 9731256 A 1997
- (7) Little, D; ANALYTICAL CHEMISTRY 1997, V69(22), P4540 HCAPLUS
- (8) Niemeyer, C; NUCLEIC ACIDS RESEARCH 1994, V22(25), P5530 HCAPLUS
- (11) Tang, K; RAPID COMMUNICATIONS IN MASS SPECTROMETRY 1994, V8(2) HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 3

L55 ANSWER 3 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:441672 HCPLUS  
 DN 133:55627  
 TI Integrated portable biological detection system  
 IN Cheng, Jing; Wu, Lei; Heller, Michael; Sheldon, Ed; Diver, Jonathan;  
 O'Connell, James P.; Smolko, Dan; Jalali, Shila; Willoughby, David  
 PA Nanogen, Inc., USA  
 SO PCT Int. Appl., 67 pp.  
 CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000037163	A1	20000629	WO 1999-US31098	19991222
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI US 1998-113730 19981223

AB Provided is an integrated, portable system and device for performing active, integrated multi-step sample prepns. and mol. diagnostic anal. of biol. samples using a minimal no. of electronically addressable microchips. Bacterial and cancer cells were sepd. from peripheral human blood in microfabricated electronic chips by dielectrophoresis. The isolated cells were examd. by staining the nuclei with fluorescent dye followed by laser induced fluorescence imaging. DNA and RNA were released

from the isolated cells electronically and specific marker sequences were detected by DNA amplification followed by electronic hybridization to immobilized capture probes. Efforts towards the construction of a "lab.-on-a-chip" system are presented which involves the selection of DNA probes, dyes, reagents and prototyping of the fully integrated portable instrument.

IT 209340-49-8D, conjugates with oligonucleotide probe

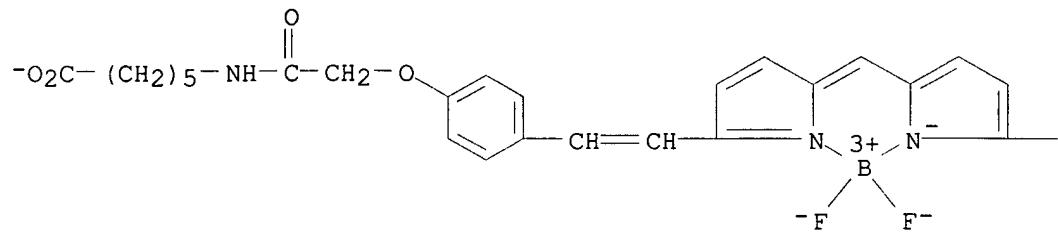
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (integrated portable biol. detection system)

RN 209340-49-8 HCPLUS

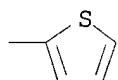
CN Borate(1-), difluoro[6-[[[4-[2-[2-[[5-(2-thienyl)-1H-pyrrol-2-yl-

.kappa.N]methylene]-2H-pyrrol-5-yl-.kappa.N]ethenyl]phenoxy]acetyl]amino]h  
 exanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A

● H<sup>+</sup>

PAGE 1-B



RE.CNT 3

RE

- (1) Hansen; US 4661451 A 1987
- (2) Heller; US 5605662 A 1997
- (3) Pethig; US 5795457 A 1998

=> d bib abs hitstr 4

L55 ANSWER 4 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:383760 HCPLUS  
 DN 133:13385  
 TI Applications with and methods for producing selected interstrand crosslinks in nucleic acid  
 PA Kreatech Biotechnology B.V., Neth.  
 SO Eur. Pat. Appl., 21 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

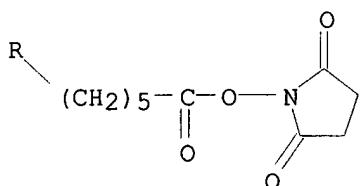
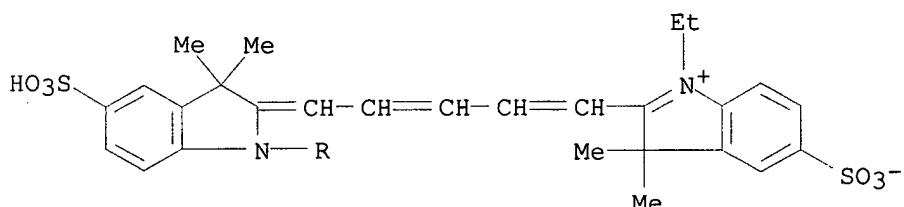
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1006199	A1	20000607	EP 1998-204094	19981203
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	EP 1006200	A2	20000607	EP 1999-204141	19991203
	EP 1006200	A3	20001011		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000032814	A2	20000608	WO 1999-NL740	19991203
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	EP 1998-204094		19981203		
AB	The invention provides methods and means for generating interstrand crosslinks in nucleic acid at certain specific locations in said nucleic acid. Said certain specific locations in said nucleic acid can be selected from other locations through hybridizing nucleic acid present in said selected location with complementary nucleic acid. In one aspect the invention provides a method for providing at least one selected sequence in a nucleic acid with interstrand crosslinks comprising hybridizing at least one selected single-strand sequence with a complementary single strand nucleic acid wherein said selected sequence or said complementary nucleic acid or both comprise a crosslinking agent [e.g., trans-dichlorodiammineplatinum(II)]. The selected interstrand crosslinks hamper further hybridization and/or replication/amplification of said selected sequences, and the selected sequence preferably comprises at least one repetitive sequence. The invention provides a special labeling technique of probes, called COBRA (COmbed Binary RATIO labeling) to achieve FISH multiplicity of 24 or more. The means and methods of the invention may be used in and beneficial for a wide variety of applications, such as the generation of nucleic acid probes and the treatment of diseases such as cancer.				
IT	146368-14-1, Cy5 146368-16-3, Cy3 RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); USES (Uses)				

Searched by John Dantzman 703-308-4488

(applications with and methods for producing selected interstrand crosslinks in nucleic acid)

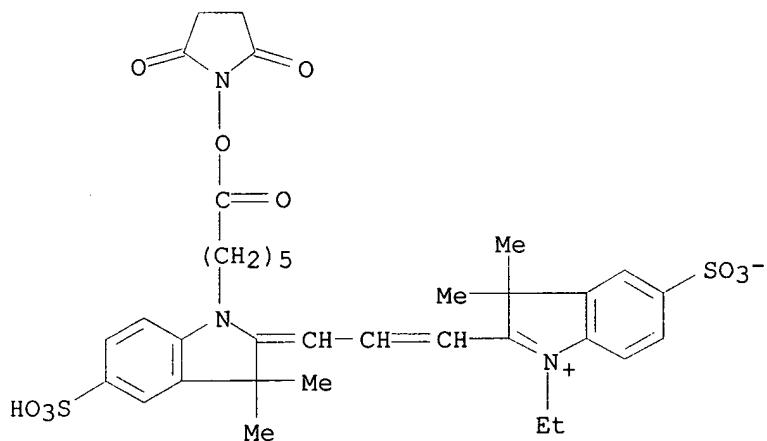
RN 146368-14-1 HCPLUS

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 HCPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 8

RE

(1) Centre Nat Rech Scient; FR 2755146 A 1998

(2) Cimino, G; US 5652096 A 1997

(3) Craig, J; HUMAN GENETICS 1997, V100(3/04), P472

Searched by John Dantzman 703-308-4488

PONNALURI      09/448420

Page 10

(4) Hampson, I; US 5589339 A 1996  
(6) LI, T; US 5831073 A 1998 HCPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 5

L55 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 2000:368704 HCAPLUS  
 DN 133:14300  
 TI In situ method of analyzing cells by staining with multiple stains and using a spectral data **collection** device  
 IN Garini, Yuval; McNamara, George; Soenksen, Dirk G.; Cabib, Dario; Buckwald, Robert A.  
 PA Applied Spectral Imaging Ltd., Israel  
 SO PCT Int. Appl., 129 pp.  
 CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000031534	A1	20000602	WO 1999-US27000	19991116
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI US 1998-196690 19981120

AB A method of in situ anal. of a biol. sample comprises the steps of (a) staining the biol. sample with N stains of which a first stain is selected

from the group consisting of a first immunohistochem. stain, a first histol. stain and a first DNA ploidy stain, and a second stain is selected

from the group consisting of a second immunohistochem. stain, a second histol. stain and a second DNA ploidy stain, with provisions that N is an integer greater than three and further that (i) if the first stain is the first immunohistochem. stain then the second stain is either the second histol. stain or the second DNA ploidy stain; (ii) if the first stain is the first histol. stain then the second stain is either the second immunohistochem. stain or the second DNA ploidy stain; whereas (iii) if the first stain is the first DNA ploidy stain then the second stain is either the second immunohistochem. stain or the second histol. stain; and (b) using a spectral data **collection** device for **collecting** spectral data from the biol. sample, the spectral data **collection** device and the N stains are selected so that a spectral component assocd. with each of the N stains is **collectible**.

Figure (1) shows a block diagram illustrating the main components of an imaging spectrometer. Breast cancer tissue samples were stained with two histol. stains (hematoxylin and eosin), and four immunohistochem. stains (DAB, AEC, Fast Red, and BCIP/NBT) and measured using the Spectracube system.

IT 146368-14-1, Cy5 146368-16-3, Cy3

RL: ARG (Analytical reagent use); BUU (Biological use, unclassified);

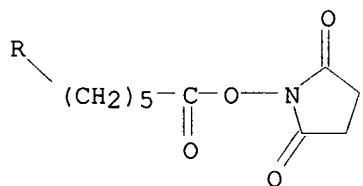
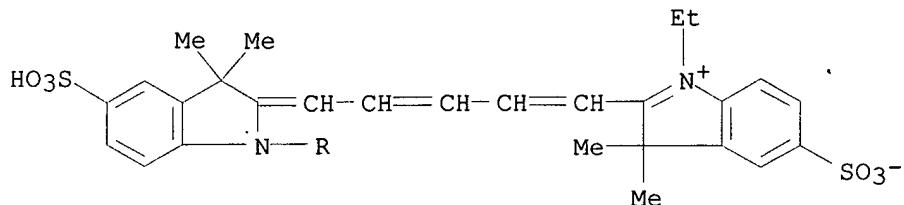
ANST

Searched by John Dantzman 703-308-4488

(Analytical study); BIOL (Biological study); USES (Uses)  
 (as label; in situ method of analyzing cells by staining with multiple  
 stains and using a spectral data collection device)

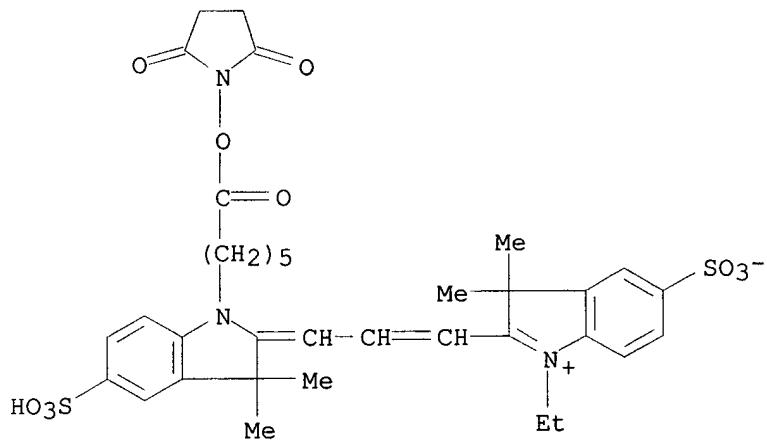
RN 146368-14-1 HCPLUS

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 HCPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 1

RE

(1) McNamara; US 6007996 A 1999

PONNALURI

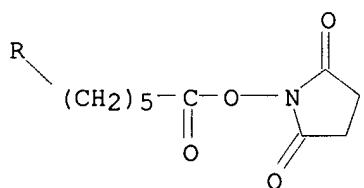
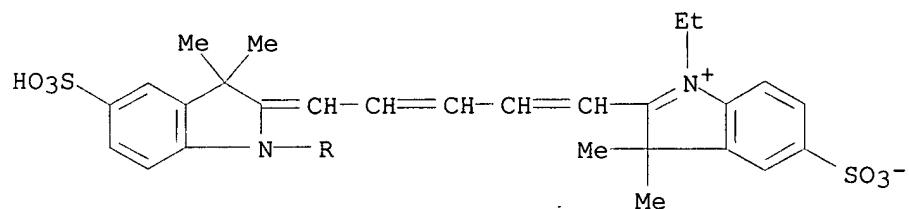
09/448420

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Searched by John Dantzman 703-308-4488

=> d bib abs hitstr 6

L55 ANSWER 6 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 2000:347473 HCPLUS  
DN 133:26285  
TI Comparison of orthogonal and collinear geometric approaches for design of a laboratory constructed diode laser induced fluorescence detector for capillary electrophoresis  
AU Nagaraj, Sriram; Karnes, H. Thomas  
CS Department of Pharmaceutics, Virginia Commonwealth University, Richmond, VA, 23298-0533, USA  
SO Instrum. Sci. Technol. (2000), 28(2), 119-129  
CODEN: ISCTEF; ISSN: 1073-9149  
PB Marcel Dekker, Inc.  
DT Journal  
LA English  
AB This work describes the design and construction of two sensitive fluorescence detectors for capillary electrophoresis employing a semiconductor diode laser as the light source. The two systems employed different geometric approaches - an orthogonal design and a collinear design, for collection of the fluorescence. The systems were evaluated using Cy5.29 carboxylic acid, a far-red dicarbocyanine dye. A limit of detection (LOD), calcd. as three times the std. deviation of the blank signal, of 7.4 .times. 10-11 M was obtained using the orthogonal system. The precision and accuracy of the assay detd. using the orthogonal system were within 10% relative std. deviation and 10% DFN (deviation from nominal) resp. The collinear design yielded a LOD of 1.2 .times. 10-12 M.  
IT 146368-14-1  
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)  
    (in evaluation of orthogonal and collinear geometric approaches for design of lab. constructed diode laser induced fluorescence detector for capillary electrophoresis)  
RN 146368-14-1 HCPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 20

RE

(1) Albin, M; Anal Chem 1993, V65, P489A HCPLUS  
(4) Chen, F; J Chromatogr A 1993, V652, P355 HCPLUS  
(5) Hernandez, L; J Chromatogr 1990, V502, P247 HCPLUS  
(6) Hernandez, L; J Chromatogr 1991, V559, P183 HCPLUS  
(7) Hernandez, L; J Chromatogr A 1993, V652, P399 HCPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 7

L55 ANSWER 7 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:314868 HCPLUS  
 DN 132:319489  
 TI Amplified **array** analysis method and system  
 IN Borrow, Mark N.; Adler, Karl Edwin  
 PA Nen Life Science Products, Inc., USA  
 SO PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000026409	A1	20000511	WO 1999-US25616	19991101
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI US 1998-106653 19981102

AB The present invention concerns an **array**-based anal. system and method having an enhanced sensitivity which allows for simple and rapid anal. of relative unmodified samples which comprises an anal. system of the type having a plurality of different first members of a specific binding pair affixed in an **array** thereupon, a mixt. including at least one second member of a specific binding pair capable of binding to one of the first members so as to form a specific binding pair which is affixed to the support member, and a reporter system that produces a detectable signal indicative of the presence of the specific binding pair on the support member and wherein the reporter system includes an amplified reporter system that is independent of layering.

Biotin-labeled

cDNA was prep'd. from 4 .mu.g Jurkat total RNA using the MICROMAX human cDNA Microarray System I kit reagents and protocols. Hybridization to Practice Slides and amplified detection used streptavidin-HRP and cyanine 5 tyramide.

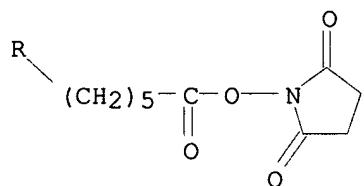
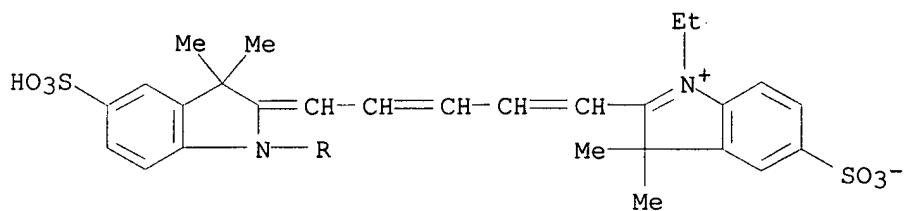
IT 146368-14-1D, Cy5, reaction with tyramine

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (Cy5; amplified **array** anal. method and system)

RN 146368-14-1 HCPLUS

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-

dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



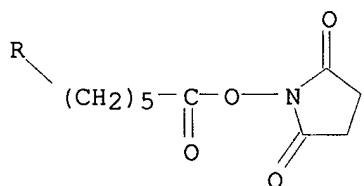
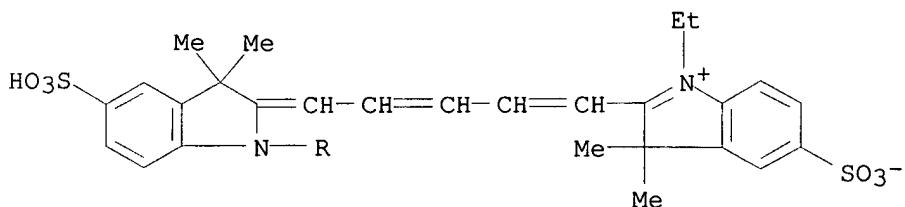
RE.CNT 3

RE

- (1) Bobrow; US 5583001 A 1996
- (2) Fodor; US 5800992 A 1998
- (3) Hopman; J Histochem Cytochem 1998, V46(7), P771

=> d bib abs hitstr 8

L55 ANSWER 8 OF 37 HCPLUS COPYRIGHT 2000 ACS  
 AN 2000:295029 HCPLUS  
 DN 133:70867  
 TI Fluorescence measurements on nanotiter plates  
 AU Hessling, M.; Ihlemann, J.; Marowsky, G.  
 CS Laser-Laboratorium Gottingen e.V. (LLG), Gottingen, D-37077, Germany  
 SO Rev. Sci. Instrum. (2000), 71(5), 2201-2205  
 CODEN: RSINAK; ISSN: 0034-6748  
 PB American Institute of Physics  
 DT Journal  
 LA English  
 AB Two different highly sensitive and fast but low-cost instruments for fluorescence measurements on nanotiter plates or other high d. sample arrays are presented. Both instruments use 635 nm diode lasers for the detection of Cy5 fluorescence. In the first device all cavities of the nanotiter plate are illuminated simultaneously and the fluorescence is detected spatially resolved by a charge-coupled device camera within a few seconds. The second system uses an on-chip microscanner for the sequential illumination of the samples and the fluorescence is detected by a simple photomultiplier tube. Both instruments have originally been developed for environmental anal. by immunochem. labeling but they can also be used for other medical and biol. purposes where analyte concns. have to be detd.  
 IT 146368-14-1  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (Cy5; fluorescence measurements on nanotiter plates)  
 RN 146368-14-1 HCPLUS  
 CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 12

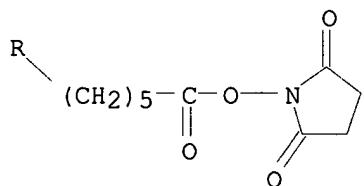
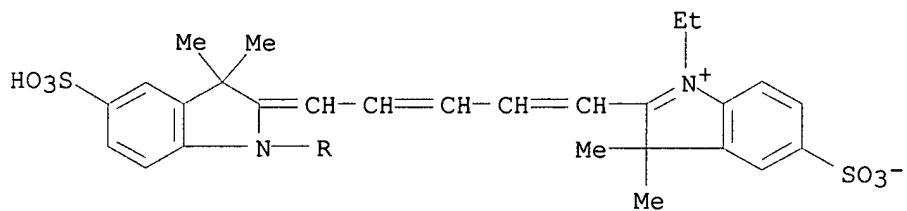
RE

- (1) Brecht, A; Proc Biosensors for Environmental Diagnostics 1998, P11
- (4) Hessling, M; Proc SPIE 1999, V3534, P554 HCAPLUS
- (9) Schober, A; Biotechniques 1993, V15, P324 HCAPLUS
- (10) Stryer, L; Annu Rev Biochem 1978, V47, P819 HCAPLUS
- (11) Ullman, E; J Biol Chem 1976, V251, P4172 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 9

L55 ANSWER 9 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 2000:282111 HCPLUS  
DN 133:147108  
TI Ratiometric Analysis of Single-Molecule Fluorescence Resonance Energy Transfer Using Logical **Combinations** of Threshold Criteria: A Study of 12-mer DNA  
AU Ying, Liming; Wallace, Mark I.; Balasubramanian, Shankar; Kleinerman, David  
CS Department of Chemistry, University of Cambridge, Cambridge, CB2 1EW, UK  
SO J. Phys. Chem. B (2000), 104(21), 5171-5178  
CODEN: JPCBFK; ISSN: 1089-5647  
PB American Chemical Society  
DT Journal  
LA English  
AB Single-mol. fluorescence resonance energy transfer (FRET) **combined** with bulk fluorescence lifetimes, anisotropy, and spectra have been used to study a donor-acceptor labeled model DNA system  
(Cy5-5'-ACCTGCCGACGC-3'-  
TMR). A general ratiometric anal. method using independent donor and acceptor thresholding has been developed. Use of two logical **combinations** of thresholding criteria provides more information than either method alone, revealing heterogeneity within this system. Conditions yielding similar bulk fluorescence spectra can be readily distinguished by this single-mol. method. Fluorescence lifetimes and anisotropy measurements also suggest nonnegligible fluorophore-DNA interaction.  
IT 146368-14-1D, Cy5, reaction with oligonucleotides  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(Cy5; ratiometric anal. of single-mol. fluorescence resonance energy transfer using logical **combinations** of threshold criteria for the study of 12-mer DNA)  
RN 146368-14-1 HCPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 50

RE

- (1) Bartko, A; J Phys Chem B 1999, V103, P11237 HCPLUS
- (2) Bopp, M; Proc Natl Acad Sci USA 1997, V94, P10630 HCPLUS
- (5) Clegg, R; Methods Enzymol 1992, V211, P353 HCPLUS
- (6) Clegg, R; Proc Natl Acad Sci USA 1993, V90, P2994 HCPLUS
- (7) Dahan, M; Chem Phys 1999, V247, P85 HCPLUS

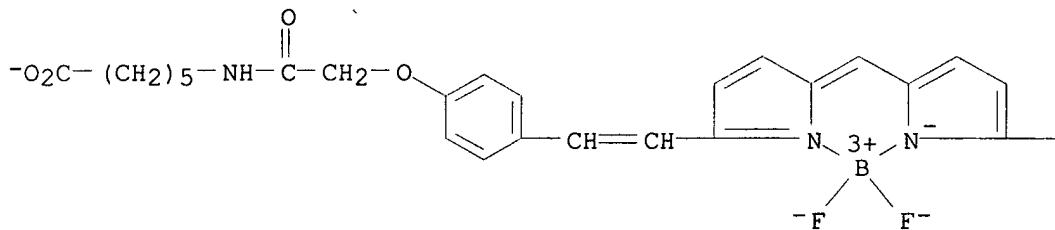
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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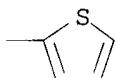
L55 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 2000:260581 HCAPLUS  
 DN 132:289573  
 TI Fluorescent probes for chromosomal painting  
 IN Cherif, Dorra  
 PA Genset, Fr.  
 SO PCT Int. Appl., 39 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000022164	A1	20000420	WO 1999-FR2517	19991015
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2784683	A1	20000421	FR 1998-12957	19981015
	AU 9960981	A1	20000501	AU 1999-60981	19991015
PRAI	FR 1998-12957	19981015			
	WO 1999-FR2517	19991015			
AB	The invention concerns fluorescent probes used in multicolor <i>in situ</i> fluorescent hybridization methods, and principally chromosomal painting. The probes designed for marking a chromosome are such that they consist of a set of DNA segments more represented in certain chromosomal bands and are obtained by Interspersed Repeated Sequence-PCR amplification from said chromosomes using PCR primers specific for the repeated and dispersed DNA sequences Alu and LINE. The invention further concerns methods for producing said probes, multicolor FISH methods capable of using said probes, and diagnostic kits comprising them. The invention also concerns combinations of fluorophores and optical filters.				
IT	209340-49-8DP, BODIPY 630/650, conjugates with probes				
	RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)				
	(BODIPY 630/650; fluorescent probes for chromosomal painting)				
RN	209340-49-8 HCAPLUS				
CN	Borate(1-), difluoro[6-[[[4-[2-[2-[[5-(2-thienyl)-1H-pyrrol-2-yl-.kappa.N]methylene]-2H-pyrrol-5-yl-.kappa.N]ethenyl]phenoxy]acetyl]amino]hexanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)				

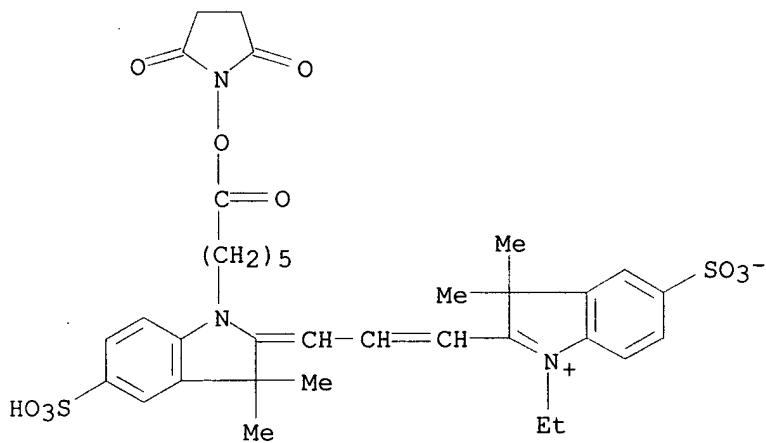
PAGE 1-A

● H<sup>+</sup>

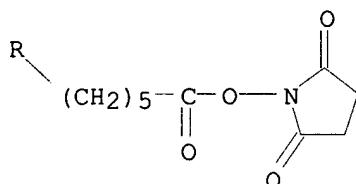
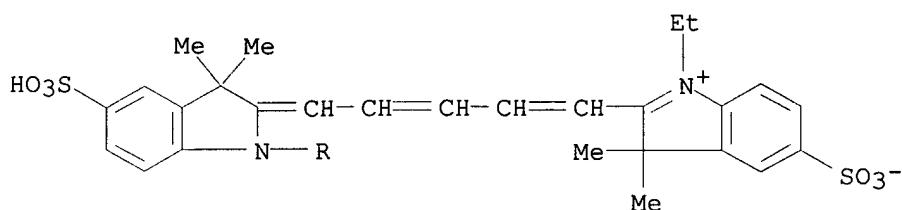
PAGE 1-B



IT 146368-16-3DP, Cy3, conjugates with probes  
 RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (Cy3; fluorescent probes for chromosomal painting)  
 RN 146368-16-3 HCPLUS  
 CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



IT 146368-14-1DP, Cy5, conjugates with probes  
 RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (Cy5; fluorescent probes for chromosomal painting)  
 RN 146368-14-1 HCAPLUS  
 CN 3H-Indolium, 2-[5-1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 9

RE

- (1) Buckwald, R; US 5817462 A 1998 HCAPLUS
- (2) Ledbetter, S; GENOMICS 1990, V6, P475 HCAPLUS
- (3) Lengauer; HUMAN GENETICS 1990, V86, P1 HCAPLUS
- (4) Lichter, P; PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA 1990, V87(17), P6634 HCAPLUS
- (8) Speicher, M; NATURE GENETICS 1996, V12, P368 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

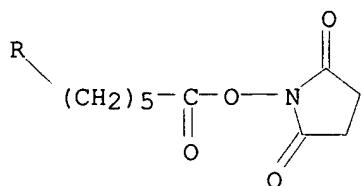
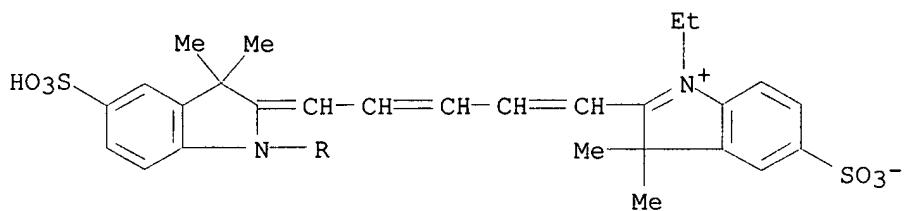
=> d bib abs hitstr 11

L55 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 2000:203017 HCAPLUS  
 DN 132:233995  
 TI Method of sequencing nucleic acids by applying a computer alignment algorithm to electrophoretic separation patterns of dideoxy-terminated fragment mixtures  
 IN McCormick, Randy M.; Briggs, Jonathan  
 PA Aclara Biosciences, USA  
 SO U.S., 29 pp., Cont.-in-part of U.S. 636,414, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6043036	A	20000328	US 1997-977931	19971124
PRAI US 1996-636414		19960423		

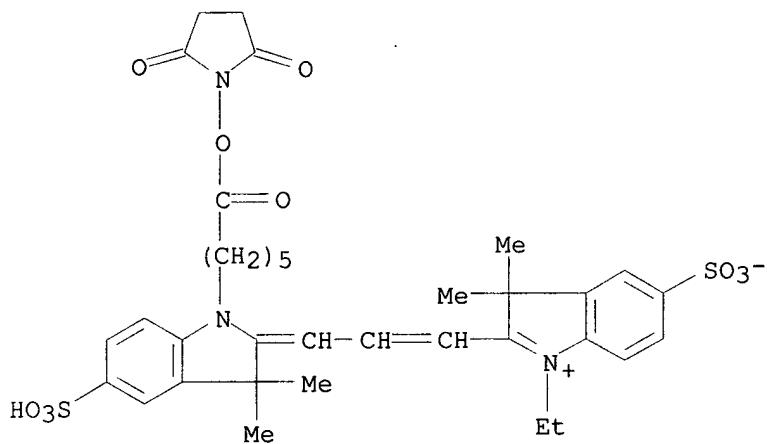
AB The present invention describes a method of sequencing nucleic acids in which mixts. of oligonucleotide fragments are derived from sequencing reactions using **combinations** of the 2',3'-dideoxynucleoside 5'-triphosphate or 3' deoxynucleoside 5'-triphosphate terminators and appropriate concns. of four dNTPs (2'-deoxynucleoside 5' triphosphates, e.g., dATP, dCTP, dGTP, dTTP, dITP, 7-deaza-GTP). These fragments are generated by enzymic extension of a primer hybridized to the single-stranded template DNA to be sequenced. In contrast to common slab gel sequencing methods, the method of the instant invention does not require precise alignment of the four sepn. sets of the terminated fragments to permit deduction of the DNA sequence. Instead the relative positions of the nucleotide bases in sep. mixts. can be deduced from binary-coded sequence string sets corresponding to the presence or absence of particular fragments by applying a computer alignment algorithm. In addn., the method possesses inherent redundancy in the sepn., which facilitates sequence assignment by resolving sequence uncertainties or anomalies. The method was applied to the detn. of the known sequence of M13mp18 DNA, and a lengthy stretch of sequence in the middle was correctly detd.

IT **146368-14-1D**, FluoroLink Mono Reactive Dye Cy5, conjugate with sequencing primers **146368-16-3D**, FluoroLink Mono Reactive Dye Cy3, conjugate with sequencing primers  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (method of sequencing nucleic acids by applying a computer alignment algorithm to electrophoretic sepn. patterns of dideoxy-terminated fragment mixts.)  
 RN 146368-14-1 HCAPLUS  
 CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 HCAPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 6

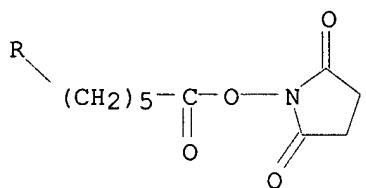
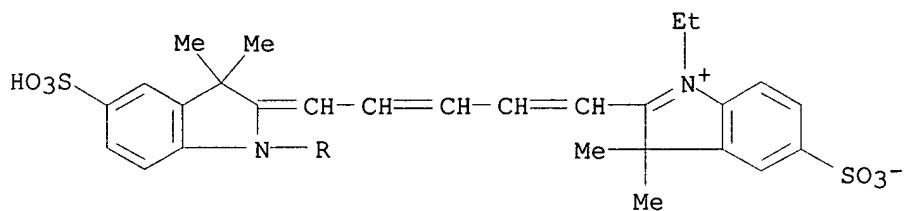
RE

- (1) Ansorge; US 5124247 1992
- (2) Hunkapillar; US 4811218 1989
- (3) Konrad; US 5273638 1993
- (4) Orgel; US 4865968 1989
- (5) Tabor; US 5409811 1995

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 12

L55 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 2000:187844 HCAPLUS  
DN 133:116994  
TI A fluorescence based non-radioactive electrophoretic mobility shift assay  
AU Ruscher, K.; Reuter, M.; Kupper, D.; Trendelenburg, G.; Dirnagl, U.;  
Meisel, A.  
CS Schumannstrasse 20-21, Klinik fur Neurologie, Humboldt Universitat zu  
Berlin, Berlin, D-10098, Germany  
SO J. Biotechnol. (2000), 78(2), 163-170  
CODEN: JBITD4; ISSN: 0168-1656  
PB Elsevier Science Ltd.  
DT Journal  
LA English  
AB Electrophoretic mobility shift assay (EMSA) or gel shift assay is one of  
the most powerful methods for studying protein-DNA interactions.  
Typically, <sup>32</sup>P-labeled DNA probes contg. the sequence bound by the  
protein  
of interest are used in EMSA (rEMSA). Although rEMSA is sensitive and  
practicable, it relies on the handling of hazardous radioisotopes, and  
does not easily allow quantification. We developed a non-radioactive  
procedure using fluorescence (Cyano dye Cy5) labeled oligodeoxynucleotide  
duplexes as specific probes (fEMSA) and an automatic DNA sequencer for  
anal. Testing different DNA-binding proteins (restriction endonuclease  
EcoRII, transcription factor NF.kappa.B and it's subunit p50) the results  
in fEMSA and rEMSA are similar in regard to quality, reproducibility, and  
sensitivity. The fEMSA allows a semiquant. screening of large amts. of  
samples for specific DNA binding activities and is, therefore, a  
**high throughput** technol. for semiquant. anal. of  
DNA-protein interaction.  
IT 146368-14-1D, Cy5, oligodeoxynucleotide conjugates  
RL: ANT (Analyte); ARU (Analytical role, unclassified); BPR (Biological  
process); ANST (Analytical study); BIOL (Biological study); PROC  
(Process)  
(Cy5; fluorescence based non-radioactive electrophoretic mobility  
shift  
assay for DNA-binding proteins)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 7

RE

- (1) Berger, R; BioTechniques 1993, V15, P650 HCPLUS
- (3) Ludwig, L; Nucleic Acids Res 1995, V23, P3792 HCPLUS
- (4) Reuter, M; J Biol Chem 1998, V273(14), P8294 HCPLUS
- (5) Reuter, M; J Biol Chem 1999, V274(8), P5213 HCPLUS
- (6) Revzin, A; BioTechniques 1989, V7, P346 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 13

L55 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 2000:53947 HCAPLUS  
 DN 132:103733  
 TI Methods for determining cross-hybridization based on dissociation kinetics

IN Burchard, Julja; Stoughton, Roland; Friend, Stephen H.

PA Rosetta Inpharmatics, Inc., USA

SO PCT Int. Appl., 72 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000003039	A1	20000120	WO 1999-US15813	19990713
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU 9950992	A1	20000201	AU 1999-50992	19990713

PRAI US 1998-92512 19980713

US 1999-335971 19990618

WO 1999-US15813 19990713

AB The present invention provides methods for distinguishing the fractions of

polynucleotide sequences which hybridize to any given probe, including probes on microarrays such as those described herein. In particular, the present invention enables users to identify the fraction of sequences which are perfectly complementary to a probe, thereby correcting for effects of cross-hybridization in a hybridization assay. The methods of the invention work by monitoring the kinetics of dissocn. of sequences from the probe so that a resulting "dissocn. curve" may be compared to a combination of the individual "dissocn. profiles" for each sequence which hybridizes. In alternative embodiments, the invention

also

provides computer systems for performing the present methods, as well as databases of the dissocn. profiles.

IT 209340-49-8, BODIPY 630/650

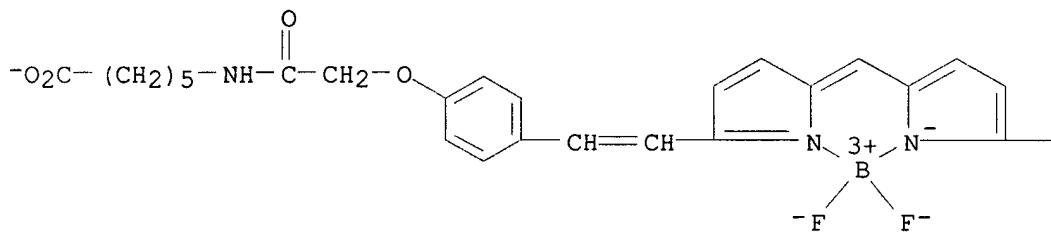
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (BODIPY 630/650, fluorescent indicator; methods for detg. cross-hybridization based on dissocn. kinetics)

RN 209340-49-8 HCAPLUS

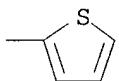
CN Borate(1-), difluoro[6-[[4-[2-[[5-(2-thienyl)-1H-pyrrol-2-yl-

.kappa.N]methylene]-2H-pyrrol-5-yl-.kappa.N]ethenyl]phenoxy]acetyl]amino]h  
 exanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A

● H<sup>+</sup>

PAGE 1-B



RE.CNT 6.

RE

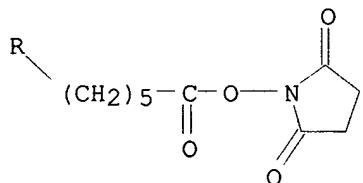
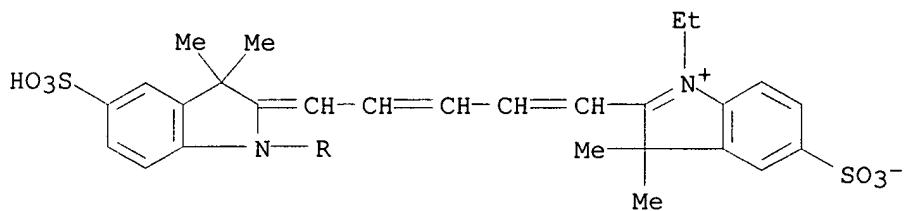
- (1) Affymetrix Inc; WO 9812354 A1 1998 HCPLUS
- (2) Blake, R; Denaturation of DNA Molecular Biology and Biotechnology 1995, P207
- (3) Ikuta; Nuc Acids Res 1987, V15(2), P797 HCPLUS
- (4) Stimpson; US 5599668 A 1997
- (5) Stimpson; Proc Natl Acad Sci USA 1995, V92, P6379 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 14

L55 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1999:819571 HCAPLUS  
 DN 132:59136  
 TI **High-throughput** methods, systems and apparatus for performing cell-based screening assays  
 IN Wada, H. Garrett; Sundberg, Steven A.; Alajoki, Marja Liisa  
 PA Caliper Technologies Corp., USA  
 SO PCT Int. Appl., 81 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9967639	A1	19991229	WO 1999-US13918	19990621
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9949570	A1	20000110	AU 1999-49570	19990621
PRAI	US 1998-104519		19980625		
	US 1999-117370		19990127		
	US 1998-117370		19990127		
	WO 1999-US13918		19990621		
AB	Methods are disclosed for detg. a function of cells, which comprises a suspension of cells flowing along a first fluid channel. The cells have				
a	first detectable property assocd. therewith, and the cells produce a second detectable property upon activation of the function of the cells, the first and second detectable properties being distinguishable from each				
	other. The levels of the first and second detectable properties are measured. The level of second detectable property is compared to the level of first detectable property to det. the relative function of the cells. The methodol. of the invention is useful in e.g. the drug discovery process.				
IT	<b>146368-14-1D</b> , Cy5, streptavidin conjugates RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Cy5; <b>high-throughput</b> methods, systems and app. for performing cell-based screening assays)				
RN	146368-14-1 HCAPLUS				
CN	3H-Indolium, 2-[5-{1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)				



RE.CNT 16

RE

- (1) Allelix Biopharmaceuticals Inc; WO 9858074 A2 1998 HCPLUS
- (4) Brunk; Biophysical Journal 1997, V72, P2820 HCPLUS
- (6) Glucksmann; US 5795726 A 1998 HCPLUS
- (8) Lawrence; Journal of Immunology 1993, V151, P6338 HCPLUS
- (12) Patterson; US 5843640 A 1998 HCPLUS

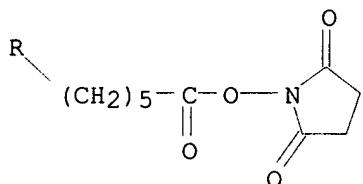
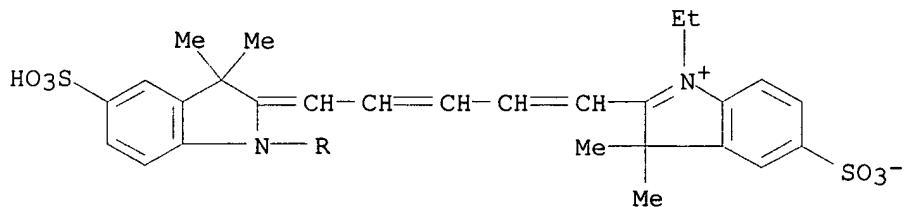
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 15

L55 ANSWER 15 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1999:816973 HCPLUS  
DN 132:45803  
TI Multiparametric fluorescence in situ hybridization for identification of human chromosomes and microbial nucleic acids  
IN Ward, David C.; Speicher, Michael; Ballard, Stephen Gwyn; Wilson, John T.  
PA Yale University, USA  
SO U.S., 43 pp., Cont.-in-part of U.S. Ser. No. 88,087, abandoned.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 5

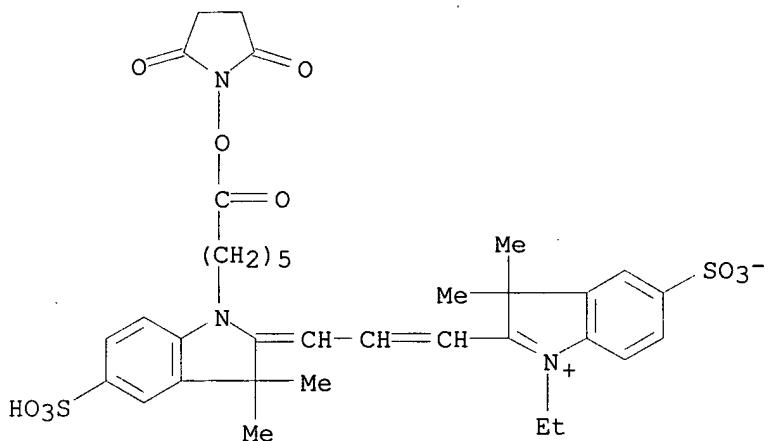
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6007994	A	19991228	US 1998-88845	19980602
	US 5759781	A	19980602	US 1996-640657	19960501
	WO 9962926	A1	19991209	WO 1999-US12107	19990602
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRAI	AU 9943247	A1	19991220	AU 1999-43247	19990602
	US 1995-577622		19951222		
	US 1995-580717		19951229		
	US 1996-640657		19960501		
	US 1998-88087		19980601		
	US 1998-88845		19980602		
	WO 1999-US12107		19990602		
AB	Methods and reagents for <b>combinatorial</b> labeling of oligonucleotide probes for visualization and simultaneous identification of all human chromosomes or defined sub-regions, and characterization of bacteria, viruses and/or lower eukaryotes present in samples are presented. The method utilizes two sets of <b>combinatorially</b> labeled oligonucleotide probes, each member thereof (i) having a predetd. label distinguishable from the label of any other member of said set, and (ii) being capable of specifically hybridizing with a predetd. chromosome or nucleic acid mol. Preferably, each probe is labeled with a combination of distinguishable fluorophores as to allow unique identification of all human chromosomes, chromosomal sub-regions, or nucleic acid of preselected bacteria, viruses and/or lower eukaryotes. The method, multiparametric fluorescence in situ hybridization (M-FISH) can be used alone or in concert with nucleic acid amplification methods, either in situ polymerase chain reaction (PCR) or in situ rolling circle amplification.				
IT	146368-14-1, FluoroLink Mono Reactive Dye Cy5 146368-16-3 , FluoroLink Mono Reactive Dye Cy3 RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study) (as fluorescent label for probes; multiparametric fluorescence in situ hybridization for identification of human chromosomes and microbial nucleic acids)				
RN	146368-14-1 HCPLUS				
CN	3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5H-indole]oxy]hex-3-en-2-ylidenyl]-1-ethyl-				

3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 HCPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 3

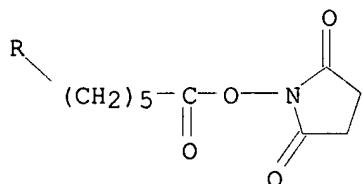
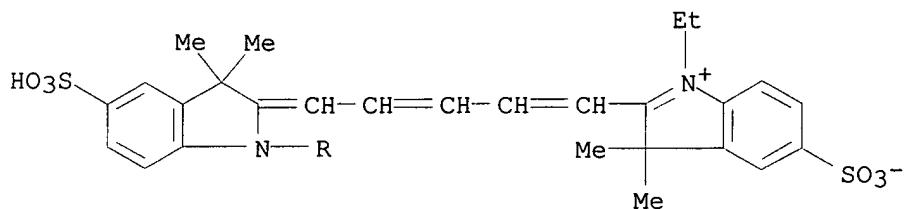
RE

- (1) Gersdorf; FEMS Immunol Med Microbiol 1993, V6, P109 MEDLINE
- (2) Hackstein; Arch Virol 1996, V141, P1293 HCPLUS
- (3) Speicher; Nature Genetics 1996, V12, P368 HCPLUS

=> d bib abs hitstr 16

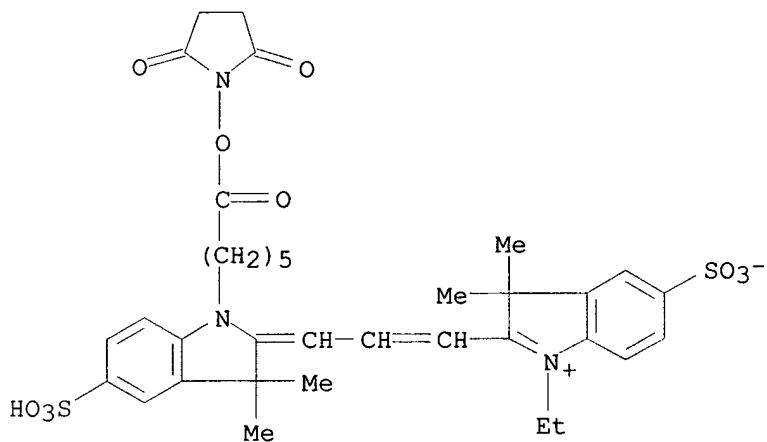
L55 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1999:784117 HCAPLUS  
 DN 132:19616  
 TI Multiparametric fluorescence in situ hybridization using mixtures of probes labeled with different **combinations** of fluorescent reporter groups  
 IN Ward, David C.; Speicher, Michael; Ballard, Stephen Gwyn; Wilson, John T.  
 PA Yale University, USA  
 SO PCT Int. Appl., 124 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9962926	A1	19991209	WO 1999-US12107	19990602
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6007994	A	19991228	US 1998-88845	19980602
	AU 9943247	A1	19991220	AU 1999-43247	19990602
PRAI	US 1998-88845	19980602			
	US 1995-577622	19951222			
	US 1995-580717	19951229			
	US 1996-640657	19960501			
	US 1998-88087	19980601			
	WO 1999-US12107	19990602			
AB	The invention relates to a set of <b>combinatorially</b> labeled oligonucleotide probes with each member having a predetd. label distinguishable from the label of any other member of the set that can be used in <b>combination</b> to simultaneously identify several target sequences in a sample. In particular, sets of probes that can be used to identify all 22 human autosomes and the X and Y chromosomes are described.				
IT	<b>146368-14-1</b> , FluoroLink Mono Reactive Dye Cy5 <b>146368-16-3</b> , FluoroLink Mono Reactive Dye Cy3				
	RL: ARU (Analytical role, unclassified); ANST (Analytical study) (as fluorochrome; multiparametric FISH using mixts. of probes labeled with different <b>combinations</b> of fluorescent reporter groups)				
RN	146368-14-1 HCAPLUS				
CN	3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)				



RN 146368-16-3 HCPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 3

RE

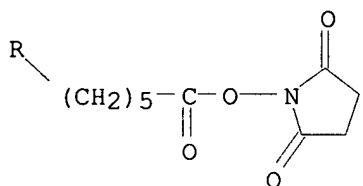
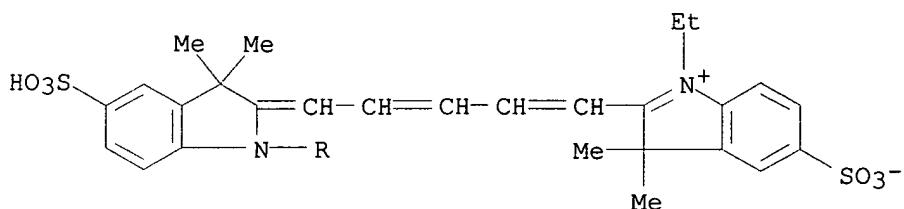
- (1) Gersdorf, H; FEMS Immun Med Microbiol 1993, V6, P109 MEDLINE
- (2) Hackstein; Arch Virol 1996, V141, P1293 HCPLUS
- (3) Speicher; Nature Genetics 1996, P368 HCPLUS

=> d bib abs hitstr 17

L55 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1999:691300 HCAPLUS  
 DN 131:308583  
 TI Detection of very low quantities of analyte using analyte binding  
**arrays**  
 IN Obremski, Robert J.; Silzel, John W.; Tsay, Tsong-Tseh; Cercek, Bibijana;  
 Dodson, Charles L.; Wang, Tung Rung; Liu, Yagang; Zhou, Shaomin  
 PA Beckman Coulter, Inc., USA  
 SO PCT Int. Appl., 40 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9954736	A1	19991028	WO 1999-US6134	19990326
	W: JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRAI US 1998-63978 19980421  
 AB A microscale binding assay, analyte binding **array**, and kits are disclosed, which exploit the mass action law to harvest analyte from a liq. sample. This is achieved by fabrication of sorbent zones having up to ten times the binding capacity per unit area generally obtained on polystyrene microtiter plates. The resulting **arrays** substantially deplete the liq. soln. of analyte during incubation. Accordingly, the assays respond to total mass of analyte in the sample, not analyte concn. This approach, coupled with direct fluorescence detection in the NIR, yields maximal signal intensity and low background for optimal sensitivity. A simple immunoassay of human IgG3 using the mass-sensing **micro-array** approach showed sensitivity equal to a conventional ELISA plate assay. Antibody **arrays** were generated either by incubation of avidin-printed **arrays** with an excess of biotinylated capture antibody, or by direct jet printing of antibody to form multianalyte **arrays**. Polyclonal mouse anti-human IgG antibody labeled with DBCY5 were used to detect bound IgG.  
 IT 146368-14-1, Cy5  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Cy5, analyte capture complex tagging with; detection of very low  
 quantities of analyte using analyte binding **arrays**)  
 RN 146368-14-1 HCAPLUS  
 CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



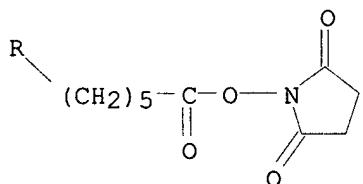
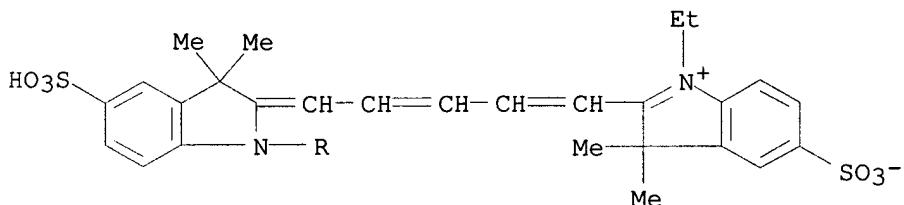
IT 146368-14-1D, derivs.

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(analyte capture complex tagging with; detection of very low  
quantities

of analyte using analyte binding arrays)

RN 146368-14-1 HCPLUS

CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 6

RE

(1) Beckman Instruments Inc; WO 9732212 A 1997

(2) Ekins, R; ANALYTICA CHIMICA ACTA 1989, V227 HCPLUS

(3) Ekins, R; ANNALES DE BIOLOGIE CLINIQUE 1992, V50(5), P337 HCPLUS

(4) Kakabakos, S; CLINICAL CHEMISTRY 1992, V38(3), P338 HCPLUS

Searched by John Dantzman 703-308-4488

PONNALURI

09/448420

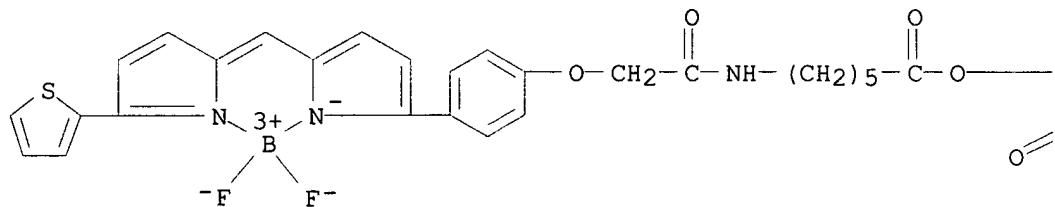
Page 39

(5) Sigal, N; COMB CHEM MOL DIVERSITY DRUG DISCOVERY 1998, P433 HCPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

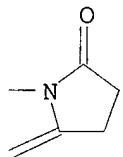
=> d bib abs hitstr 18

L55 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:688481 HCAPLUS  
DN 132:102348  
TI Simultaneous Assay of Src SH3 and SH2 Domain Binding Using Different Wavelength Fluorescence Polarization Probes  
AU Lynch, Berkley A.; Minor, Charles; Loiacono, Kara A.; van Schravendijk, Marie Rose; Ram, Mary K.; Sundaramoorthi, Raji; Adams, Susan E.; Phillips, Tom; Holt, Dennis; Rickles, Richard J.; MacNeil, Ian A.  
CS ARIAD Pharmaceuticals Inc., Cambridge, MA, 02139, USA  
SO Anal. Biochem. (1999), 275(1), 62-73  
CODEN: ANBCA2; ISSN: 0003-2697  
PB Academic Press  
DT Journal  
LA English  
AB Pp60c-src is a prototypical nonreceptor tyrosine kinase and may play a role in diseases as diverse as cancer and osteoporosis. In Src, the SH3 domain (Src homol. 3) binds proteins at specific, proline-rich sequences, while the SH2 domain (Src homol. 2) binds phosphotyrosine-contg. sequences. Inhibition of Src SH3 and SH2 domain function is of potential therapeutic value because of their importance in signaling pathways involved in disease states. We have developed dual-wavelength fluorescent peptide probes for both the Src SH3 and the Src SH2 domains, which allow the simultaneous measurement of compds. binding to each domain in assays based on the technique of fluorescence polarization. We demonstrate the utility of these probes in a dual-binding assay (suitable for **high-throughput** screening) to study the interactions of various peptides with these domains, including a sequence from the rat protein p130CAS which has been reported to bind simultaneously to both Src SH3 and SH2 domains. Utilizing this dual-binding assay, we confirm that sequences from p130CAS can simultaneously bind Src via both its SH3 and its SH2 domains. We also use the dual-binding assay as an internal control to identify substances which inhibit SH3 and SH2 binding via nonspecific mechanisms. (c) 1999 Academic Press.  
IT 197306-80-2, BODIPY TR-X, SE  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
RN 197306-80-2 HCAPLUS  
CN Boron, [N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-2-[4-[5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-2-yl-.kappa.N]phenoxy]acetamido]difluoro-, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 28

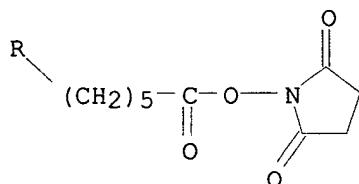
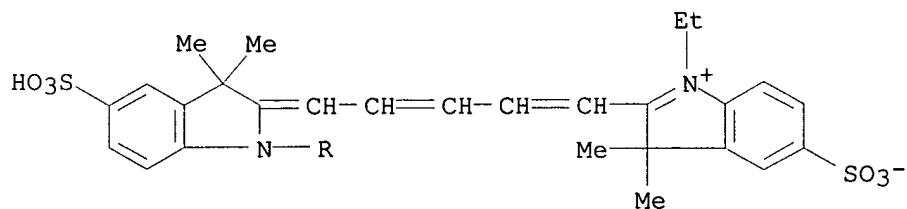
RE

- (1) Alexandropoulos, K; Genes Dev 1996, V10, P1341 HCPLUS
- (2) Alligood, K; Bioorg Med Chem Lett 1998, V8, P1189 HCPLUS
- (4) Charifson, P; Biochemistry 1997, V36, P6283 HCPLUS
- (5) Cohen, G; Cell 1995, V80, P237 HCPLUS
- (7) Feng, S; Proc Natl Acad Sci USA 1995, V92, P12408 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 19

L55 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:684488 HCAPLUS  
DN 131:348686  
TI Ligand-receptor binding measured by laser-scanning imaging  
AU Zuck, Paul; Lao, Zhege; Skwish, Stephen; Glickman, J. Fraser; Yang, Ke;  
Burbaum, Jonathan; Inglese, James  
CS Pharmacopeia Inc., CN5350, Princeton, NJ, 08543, USA  
SO Proc. Natl. Acad. Sci. U. S. A. (1999), 96(20), 11122-11127  
CODEN: PNASA6; ISSN: 0027-8424  
PB National Academy of Sciences  
DT Journal  
LA English  
AB This report describes the integration of laser-scanning fluorometric  
cytometry and nonspn. ligand-binding techniques to provide new assay  
methods adaptable to miniaturization and **high-throughput**  
screening. Receptor-bound, cyanine dye-labeled ligands, [Cy]ligands,  
were discriminated from those free in soln. by measuring the accumulated  
fluorescence assocd. with a receptor-contg. particle. To illustrate the  
various binding formats accommodated by this technique, satn.- and  
competition-binding analyses were performed with [Cy]ligands and their  
cognate receptors expressed in CHO cells or as fusion proteins coated on  
polystyrene microspheres. We have successfully applied this technique to  
the anal. of G protein-coupled receptors, cytokine receptors, and SH2  
domains. Multiparameter readouts from ligands labeled sep. with Cy 5 and  
Cy 5.5 demonstrate the simultaneous anal. of two target receptors in a  
single well. In addn., laser-scanning cytometry has been used to assay  
enzymes such as phosphatases and in the development of single-step  
fluorescent immunoassays.  
IT **146368-14-1**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(Cy5; ligand-receptor binding measured by laser-scanning imaging)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 27

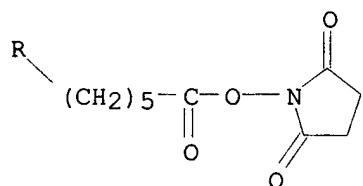
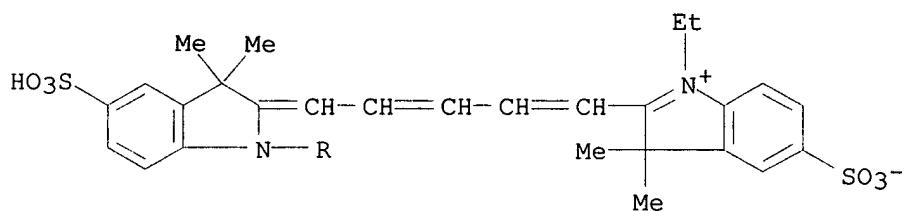
RE

- (1) Auer, M; Drug Discovery Today 1998, V3, P457 HCPLUS
- (2) Baggiolini, M; Annu Rev Immunol 1997, V15, P675 HCPLUS
- (3) Brown, S; Protein Expression Purif 1998, V14, P120 HCPLUS
- (4) Burke, T; Biochemistry 1994, V33, P6490 HCPLUS
- (5) Chabala, J; Comb Chem Mol Diversity Drug Discovery 1998, P3 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 20

L55 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:467576 HCAPLUS  
DN 131:348638  
TI Fluorescence resonance energy transfer between single fluorophores attached to a coiled-coil protein in aqueous solution  
AU Ishii, Yoshiharu; Yoshida, Tomoko; Funatsu, Takashi; Wazawa, Tetsuichi; Yanagida, Toshio  
CS Single Molecule Processes Project, ICORP JST, Mino, Osaka, Japan  
SO Chem. Phys. (1999), 247(1), 163-173  
CODEN: CMPHC2; ISSN: 0301-0104  
PB Elsevier Science B.V.  
DT Journal  
LA English  
AB Fluorescence resonance energy transfer (FRET) is a technique to detect the structural changes in biomols. We extended this technique to the single-mol. level in aq. soln., by combining it with total internal reflection fluorescence microscopy. Both multiple color images and fluorescence spectra at the single-mol. level were obtained to det. FRET from Cy3 to Cy5 attached to .alpha.-tropomyosin (.alpha.Tm), a coiled-coil of homodimer. The FRET properties obsd. between single fluorophores were consistent with the premise of FRET. On excitation at the donor, the fluorescence of the donor decreased and the fluorescence of the acceptor increased. Photobleaching of one of the fluorophore affected the fluorescence of the other as predicted by the mechanism of FRET. Photobleaching occurred in a single step, confirming that the donor and acceptor fluorophores were single. Large FRET efficiency (78%) was obtained in agreement with a coiled-coil structure and the FRET decreased when the protein was denatured into two polypeptide chains. Thus, we demonstrated that it is possible to detect the assembly-disassembly of individual protein mols. as well as conformational changes occurring within a single protein mol.  
IT 146368-14-1D, conjugates with .alpha.-tropomyosin  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(Cy5; fluorescence resonance energy transfer between single fluorophores attached to coiled-coil protein in aq. soln.)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 36

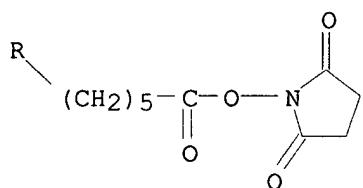
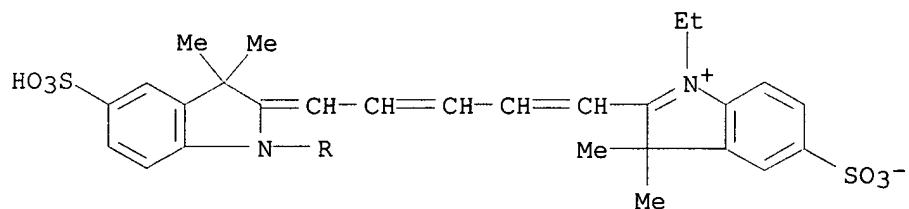
RE

- (1) Betzig, E; Science 1993, V262, P1422 HCPLUS
- (3) Bukau, B; Cell 1998, V92, P351 HCPLUS
- (5) Cummins, P; Biochem J 1974, V141, P43 HCPLUS
- (6) Dickson, R; Nature (London) 1997, V388, P355 HCPLUS
- (7) Dos Remedios, C; J Struct Biol 1995, V115, P175 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 21

L55 ANSWER 21 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1999:455955 HCPLUS  
DN 131:212758  
TI A homogeneous and multiplexed immunoassay for **high-throughput** screening using fluorometric microvolume assay technology  
AU Swartzman, Elana E.; Miraglia, Sheri J.; Mellentin-Michelotti, Julia; Evangelista, Lolita; Yuan, Pau-Miau  
CS PE Biosystems, Foster City, CA, 94404-1128, USA  
SO Anal. Biochem. (1999), 271(2), 143-151  
CODEN: ANBCA2; ISSN: 0003-2697  
PB Academic Press  
DT Journal  
LA English  
AB The authors have developed a simple, homogeneous bead-based immunoassay for use with fluorometric micro-vol. assay technol. (FMAT). The FLISA (fluorescence-linked immunosorbent assay) can be easily adapted from existing immunoassays, is comparable to traditional ELISAs with respect to linear dynamic range and sensitivity, and can be readily performed in 96- and 384-well plates. Addnl., the FLISA utilizes 100-fold less primary antibody than the conventional immunoassay. The scanner uses a helium/neon laser to image and measure bead-bound fluorescence while the background fluorescence is ignored. Consequently, no wash steps are required to remove unbound antibody, ligand, and fluorophore. Furthermore, the instrument is capable of detecting two different fluorescent dyes, allowing for multiplexed assays based on color. Fluorescent bead-based immunoassays were developed for the cytokines IL-6 and IL-8, and their use in both one-color and two-color FLISAs is demonstrated. Although no wash steps were employed, the FLISA was able to accurately measure the concns. of IL-6 and IL-8 in the growth media of cytokine-stimulated HUVEC cells. In addn., a simulated **high-throughput** two-color FLISA pos. identified those wells in a 384-well plate that contained different amts. of IL-6 and/or IL-8 peptide. The homogeneous, multiplex and multiplate format of the FLISA reduces hands-on time and reagent usage, and is therefore ideally suited for **high-throughput** screening. (c) 1999 Academic Press.  
IT 146368-14-1D, antibody or streptavidin conjugates  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(for fluorescence-linked immunosorbent assay detection of biomols.)  
RN 146368-14-1 HCPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 11

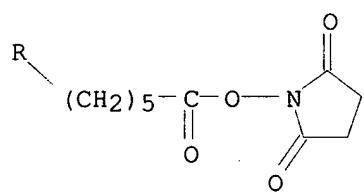
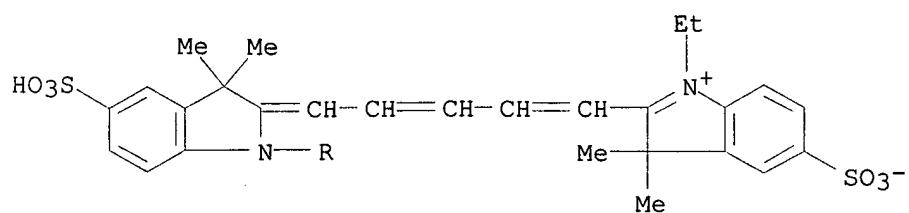
RE

- (1) Broach, J; Nature 1996, V384, P14 HCAPLUS
- (2) Chen, C; Cytokine 1996, V8, P58 HCAPLUS
- (7) McHugh, T; Methods Cell Biol 1994, V42, P575 HCAPLUS
- (10) Pober, J; Physiol Rev 1990, V70, P427 HCAPLUS
- (11) Udenfriend, S; Anal Biochem 1987, V161, P494 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT



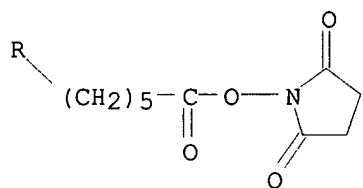
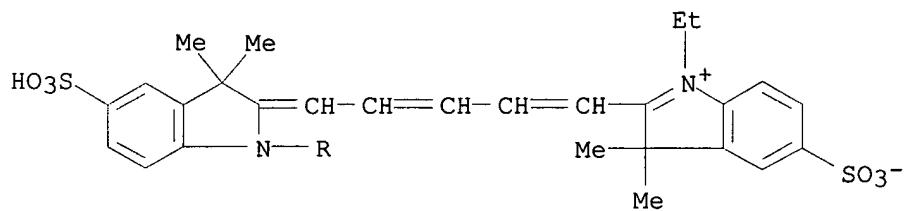
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr 23

L55 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:440085 HCAPLUS  
DN 131:85143  
TI Confocal fluorescence coincidence analysis for following various reactions  
and conformation changes  
IN Eigen, Manfred; Winkler, Thorsten; Stephan, Jens; Schwille, Petra;  
Koltermann, Andre; Kettling, Ulrich; Doerre, Klaus; Bieschke, Jan  
PA EVOTEC BioSystems A.-G, Germany  
SO Ger. Offen., 12 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19757740	A1	19990708	DE 1997-19757740	19971223
	DE 19757740	C2	20000413		
	WO 9934195	A1	19990708	WO 1998-EP8425	19981223
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1042664	A1	20001011	EP 1998-965868	19981223
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	DE 1997-19757740	19971223			
	DE 1998-19849265	19981026			
	WO 1998-EP8425	19981223			
AB	The invention concerns a math. method, the coincidence anal. in conjunction with dual-color fluorescence correlation spectroscopy for measuring assocn., dissocn., ligation, cleavage, enzyme reactions and conformational changes in picoliter vols. and in fragments of a second or in seconds; the method is designed for <b>high-throughput</b> screening. Probes are labeled with two different fluorescent dyes and radiated with laser light at two different wavelengths. Fluorescence fluctuations occur coincidentally in two different spectral ranges; occurrence of reactions are monitored as a function of concn. and time. Thus a homogeneous restriction endonuclease assays were performed using double labeled double stranded DNA; the DNA contained recognition sites for BamHI, EcoRI, Sspl, and HindIII.				
IT	<b>146368-14-1</b> RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (fluorophor label for oligonucleotide; confocal fluorescence coincidence anal. for following various reactions and conformation changes)				
RN	146368-14-1 HCAPLUS				
CN	3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)				



RE.CNT 2

RE

(1) Anon; EP 0731173 A2 HCPLUS

(2) Anon; WO 9416313 A2

=> d bib abs hitstr 24

L55 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1999:405112 HCAPLUS  
 DN 131:56155

TI Methods for the simultaneous identification of novel biological targets and lead structures for drug development using **combinatorial libraries** and probes

IN Heefner, Donald L.; Zepp, Charles M.; Gao, Yun; Jones, Steven W.

PA Sepracor Inc., USA

SO PCT Int. Appl., 125 pp..

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9931267	A1	19990624	WO 1998-US26894	19981218
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ,				

TM	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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	AU 9919256	A1	19990705	AU 1999-19256	19981218
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PRAI US 1997-68035 19971218

WO 1998-US26894 19981218

AB The **combinatorial** screening assays and detection methods of the present invention encompass highly diversified **libraries** of compds. which act as fingerprints to allow for the identification of specific mol. differences existing between biol. samples. The **combinatorial** screening assay and detection methods of the present invention utilize highly diversified **libraries** of compds. to interrogate and characterize complex mixts. in order to identify specific mol. differences existing between biol. samples, which may serve as targets for diagnosis or development of therapeutics. The invention is base, in part, on the design of sensitive, rapid, homogeneous assay systems that permit the evaluation, interrogation, and characterization

of samples using complex, highly diversified **libraries** of mol. probes. The ability to run the **high throughput** assays in a homogeneous format increases sensitivity of screening. In addn.,

the homogeneous format allows the mols. which interact to maintain their native or active conformations. Moreover, the homogeneous assay systems of the invention utilize robust detection systems that do not require sepn. steps for detection of reaction products. The assays of the invention can be used for diagnostics, drug screening and discovery, target-driven discover, and in the field of proteomics and genomics for the identification of disease markers and drug targets.

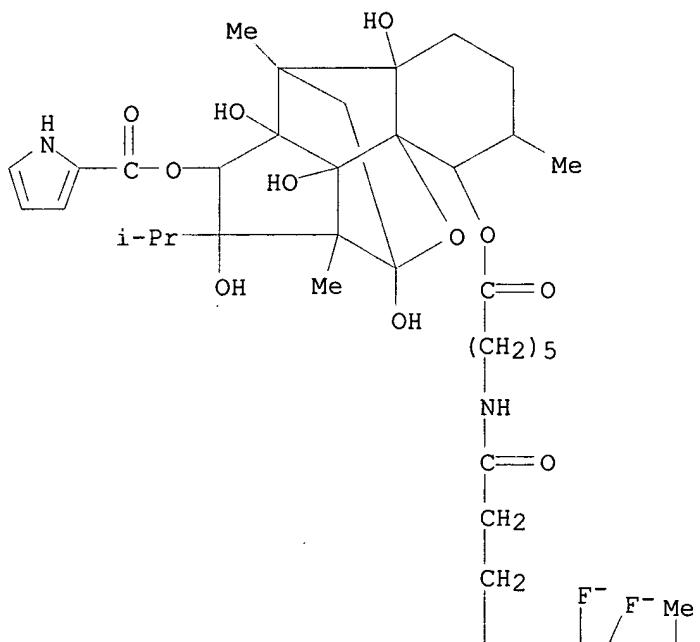
IT 216572-00-8, BODIPY FL-X ryanodine

RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified);

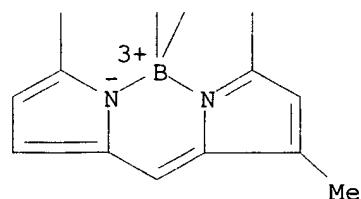
BPR Searched by John Dantzman 703-308-4488

BIOL (Biological process); THU (Therapeutic use); ANST (Analytical study);  
 BIOL (Biological study); PROC (Process); USES (Uses)  
 (identification of novel biol. targets and lead structures for drug  
 development using **combinatorial libraries** and  
 probes)  
 RN 216572-00-8 HCPLUS  
 CN Boron, [(3S,4R,4aR,6S,6aS,7S,8R,8aS,8bR,9S,9aS)-4-[[6-[[3-[5-[(3,5-  
 dimethyl-2H-pyrrol-2-ylidene-.kappa.N)methyl]-1H-pyrrol-2-yl-.kappa.N]-1-  
 oxopropyl]amino]-1-oxohexyl]oxy]dodecahydro-6,7,8a,8b,9a-pentahydroxy-  
 3,6a,9-trimethyl-7-(1-methylethyl)-6,9-methanobenzo[1,2]pentaleno[1,6-  
 bc]furan-8-yl 1H-pyrrole-2-carboxylato]difluoro-, (T-4)-(9CI) (CA INDEX  
 NAME)

PAGE 1-A



PAGE 2-A



RE.CNT 1

RE

Searched by John Dantzman 703-308-4488

PONNALURI      09/448420

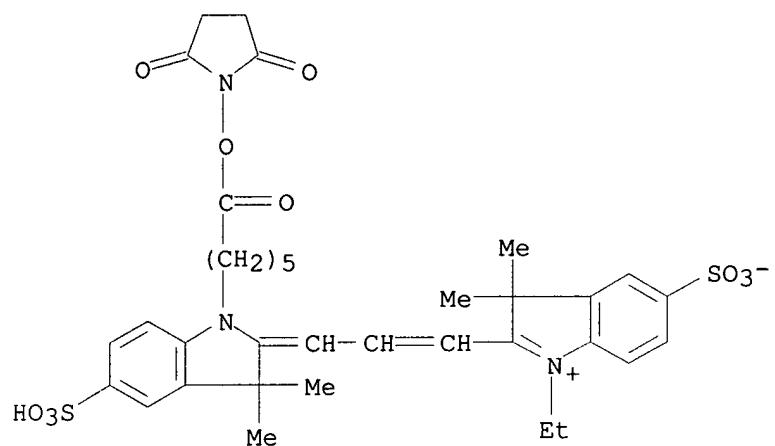
Page 54

(1) Lin; Science 1997, V278, P840 HCPLUS

Searched by John Dantzman    703-308-4488

=> d bib abs hitstr 25

L55 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:371996 HCAPLUS  
DN 131:180376  
TI Embryonic gene expression resolved at the cellular level by fluorescence  
in situ hybridization  
AU Paratore, Christian; Suter, Ueli; Sommer, Lukas  
CS Institute of Cell Biology, Swiss Federal Institute of Technology,  
ETH-Honggerberg, Zurich, CH-8093, Switz.  
SO Histochem. Cell Biol. (1999), 111(6), 435-443  
CODEN: HCBIFP; ISSN: 0948-6143  
PB Springer-Verlag  
DT Journal  
LA English  
AB Tyramide signal amplification has successfully been applied to enhance  
detection limits of both immunol. reactions and in situ hybridization  
methods. The technique uses short-range deposition of activated tyramide  
mediated by horseradish peroxidase. The authors have adapted this method  
to fluorescence in situ hybridization on embryonic tissue sections using  
fluorophore-labeled tyramide. The sensitivity of the procedure was  
sufficient to analyze the embryonic expression of mRNAs encoding both  
transcription factors and structural proteins. **Combining**  
fluorescence in situ hybridization and immunofluorescence with confocal  
microscopy allows the simultaneous detection of distinct mRNA species or  
of mRNAs together with proteins on the cellular level. Thus, the cell  
types expressing a particular gene at a given developmental stage can be  
studied even if no antibody to the gene product of interest is available.  
Moreover, the technique allows to study in situ the **combinatorial**  
marker expression that characterizes progenitor stages of a given cell  
lineage.  
IT 146368-16-3D, tyramide derivs  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified);  
ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(fluorescent reporter as substrates; embryonic gene expression  
resolved  
at cellular level by fluorescence in situ hybridization)  
RN 146368-16-3 HCAPLUS  
CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-  
dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 26

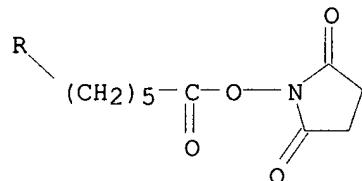
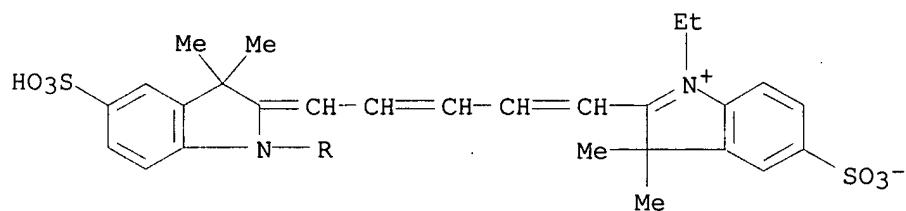
RE

- (1) Adams, J; J Histochem Cytochem 1992, V40, P1457 HCPLUS
- (2) Birren, S; Development 1993, V119, P597 HCPLUS
- (3) Bobrow, M; J Immunol Methods 1989, V125, P279 HCPLUS
- (4) Chotteau-Lelievre, A; Oncogene 1997, V15, P937 HCPLUS
- (6) Hunyady, B; J Histochem Cytochem 1996, V44, P1353 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 26

L55 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:371551 HCAPLUS  
DN 131:153816  
TI Study of Ligand-Receptor Interactions by Fluorescence Correlation Spectroscopy with Different Fluorophores: Evidence That the Homopentameric 5-Hydroxytryptamine Type 3As Receptor Binds Only One Ligand  
AU Wohland, T.; Friedrich, K.; Hovius, R.; Vogel, H.  
CS Laboratory of Physical Chemistry of Polymers and Membranes Chemistry Department, Swiss Federal Institute of Technology, Lausanne, CH-1015, Switz.  
SO Biochemistry (1999), 38(27), 8671-8681  
CODEN: BICHAW; ISSN: 0006-2960  
PB American Chemical Society  
DT Journal  
LA English  
AB The 5-hydroxytryptamine receptor of type 3 was investigated by fluorescence correlation spectroscopy (FCS). Binding consts. of fluorescently labeled ligands, the stoichiometry, and the mass of the receptor are readily accessible by this technique, while the duration of measurement is on the order of seconds to minutes. The receptor antagonist 1,2,3,9-tetrahydro-3-[(5-methyl-1H-imidazol-4-yl)methyl]-9-(3-aminopropyl)-4H-carbazol-4-one (GR-H) was labeled with the fluorophores rhodamine 6G, fluorescein, N-[7-nitrobenz-2-oxa-1,3-diazol-4-yl], and the cyanine dye Cy5. These labels cover a large part of the visible electromagnetic spectrum. It is shown that the photophys. and chem. properties have a direct influence on the measurement quality (duration of measurement, signal-to-noise ratio) and the ligand-receptor interactions (dissocn. consts.), resp. This makes it necessary to choose a suitable label or a combination of labels for receptor studies. The affinities of the fluorescently labeled ligands detd. by FCS were virtually identical to the values obtained by radioligand binding expts. Moreover, the dissocn. const. of a nonfluorescent receptor ligand was detd. successfully by an FCS competition assay. The exptl. results showed that only one antagonist binds to the receptor, in agreement with measurements previously published [Tairi et al. (1998) Biochem. 37, 15850-15864].  
IT 146368-14-1, Cy5  
RL: BPR (Biological process); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)  
(Cy5; fluorescence correlation spectroscopy with different fluorophores shows that homopentameric 5-hydroxytryptamine type 3As receptor binds only one ligand)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 43

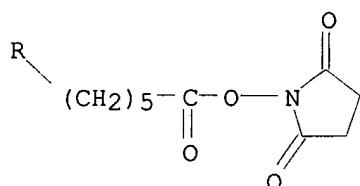
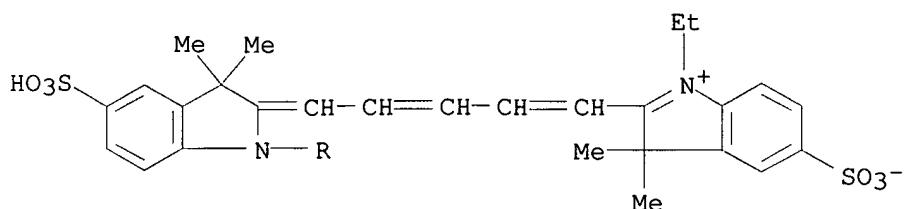
RE

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- (3) Boess, F; J Neurochem 1995, V64, P1401 HCPLUS
- (4) Bonnet, G; Proc Natl Acad Sci USA 1998, V95, P8602 HCPLUS
- (6) Cheng, Y; Biochem Pharmacol 1973, V22, P3099 HCPLUS
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 27

L55 ANSWER 27 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1999:365061 HCPLUS  
DN 131:151371  
TI Comparison between a conventional epifluorescence microscope and a new highly efficient evanescent wave detector in single-molecule spectroscopic applications  
AU Enderlein, Joerg; Ruckstuhl, Thomas; Loescher, Frank; Boehmer, Martin; Seeger, Stefan  
CS Inst.Analytical Chemistry, Chemo- und Biosensors, Univ. Regensburg, Germany  
SO Proc. SPIE-Int. Soc. Opt. Eng. (1999), 3602(Advances in Fluorescence Sensing Technology IV), 94-101  
CODEN: PSISDG; ISSN: 0277-786X  
PB SPIE-The International Society for Optical Engineering  
DT Journal  
LA English  
AB We present a comparison between two different optical detection systems:  
a confocal epifluorescence microscope, and a new evanescent wave detection system employing a parabolic optical element. In a microscope set-up, fluorescence light is **collected** within a cone around the optical axis, whereas in the evanescent light detector, fluorescence light is **collected** mainly at angles larger than the so-called crit. angle of total internal reflection. Based on a thorough theor. modeling of both exptl. set-ups, comparison between the two detection systems is made and the optical detection efficiency is compared.  
IT 146368-14-1, Cy5  
RL: PEP (Physical, engineering or chemical process); PRP (Properties);  
PROC (Process)  
          (single-mol. detection using evanescent wave detector)  
RN 146368-14-1 HCPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



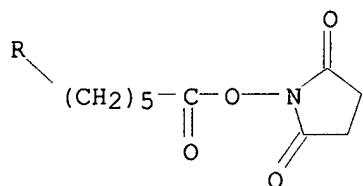
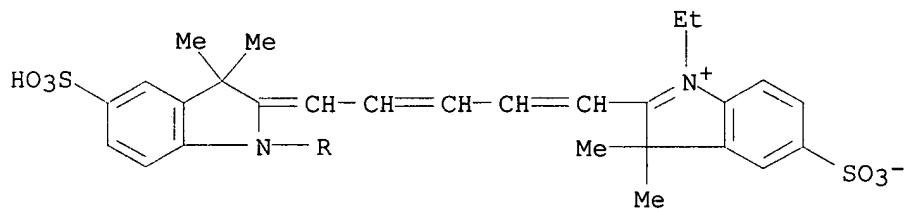
RE.CNT 5

RE

- (1) Chance, R; Advances in chemical physics 1978, P1 HCPLUS
- (2) Enderlein, J; to be published in Appl Opt
- (3) Huston, A; Chem Phys 1991, V149, P401 HCPLUS
- (4) Lieberherr, M; Surface Science 1987, V189/190, P954
- (5) Lukosz, W; J Opt Soc Am 1977, V67, P1607

=> d bib abs hitstr 28

L55 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:276701 HCAPLUS  
DN 131:126014  
TI New strategy for multi-color fluorescence in situ hybridization: COBRA:  
Combined Binary RAtio labelling  
AU Tanke, H. J.; Wiegant, J.; Van Gijlswijk, R. P. M.; Bezrookove, V.;  
Pattenier, H.; Heetebrij, R. J.; Talman, E. G.; Raap, A. K.; Vrolijk, J.  
CS Laboratory for Cytochemistry and Cytometry, Department of Molecular Cell  
Biology, Leiden University Medical Center, Leiden, 2333, Neth.  
SO Eur. J. Hum. Genet. (1999), 7(1), 2-11  
CODEN: EJHGEU; ISSN: 1018-4813  
PB Stockton Press  
DT Journal  
LA English  
AB Multicolor in situ hybridization (MFISH) is increasingly applied to  
karyotyping and detection of chromosomal abnormalities. So far 27 color  
analyses have been described using fluorescently labeled chromosome  
painting probes in a so-called **combinatorial** approach. In this  
paper a new strategy is presented to use efficiently the currently  
available no. of spectrally sep'd. fluorophores in order to increase the  
multiplicity of MFISH. We introduce the principle of COBRA (  
**Combined** Binary RATIO labeling), which is based on the  
simultaneous use of **combinatorial** labeling and ratio labeling.  
Human chromosome painting in 24 colors is accomplished using four  
fluorophores only. Three fluorophores are used pair wise for ratio  
labeling of a set of 12 chromosome painting probes. The second set of 12  
probes is labeled identically but is also given a binary label (fourth  
fluorophore). The COBRA method is demonstrated on normal human  
chromosomes and on a lymphoma (JVM) cell line, using probes enzymically  
labeled with fluorescein, lissamine and cy5 as primary fluorophores, and  
diethylaminocoumarin (DEAC), a blue dye, as **combinatorial** fourth  
label to demonstrate incorporated digoxigenin. In addn., the principle  
was tested using chem. labeling. The first set of 12 painting probes was  
therefore labeled by ULS (Universal Linkage System), using DEAC, cy3 and  
cy5 as primary labels, and the second set was labeled similarly, but also  
contained a digoxigenin-ULS label, which was indirectly stained with  
fluorescein. Subsequently, a math. anal. is presented and methods are  
indicated for achieving an MFISH multiplicity of 48, 96 or even higher  
using existing technol.  
IT 146368-14-1D, probes labeled with  
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical  
process); ANST (Analytical study); PROC (Process); USES (Uses)  
(CY5; new COBRA (**Combined** Binary RAtio labeling) strategy for  
multi-color fluorescence in situ hybridization)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 17

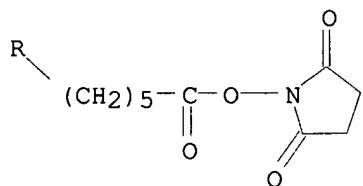
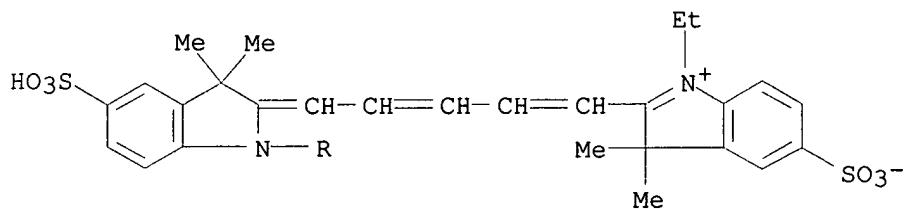
RE

- (1) Dauwerve, J; Hum Mol Genet 1992, V1, P593 HCPLUS
- (2) Lengauer, C; Hum Mol Genet 1993, V2, P505 HCPLUS
- (3) Melo, J; Int J Cancer 1986, V38, P531 HCPLUS
- (4) Morrison, L; Cytometry 1997, V27, P314 HCPLUS
- (6) Nederlof, P; Cytometry 1990, V11, P126 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 29

L55 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:155616 HCAPLUS  
DN 131:2342  
TI Time-resolved detection and identification of single analyte molecules in microcapillaries by time-correlated single-photon counting (TCSPC)  
AU Becker, W.; Hickl, H.; Zander, C.; Drexhage, K. H.; Sauer, M.; Siebert, S.; Wolfrum, J.  
CS Becker & Hickl GmbH, Kolonnenstr. 29, Berlin, 10829, Germany  
SO Rev. Sci. Instrum. (1999), 70(3), 1835-1841  
CODEN: RSINAK; ISSN: 0034-6748  
PB American Institute of Physics  
DT Journal  
LA English  
AB A PC plug-in card for online time resolved fluorescence detection of single dye mols. based on a new time-correlated single photon counting (TCSPC) module is described. The module contains all electronic components const. fraction discriminators (CFDs), time-to-amplitude converter (TAC), analog-to-digital converter (ADC), multichannel analyzer (MCA timers) on board required for TCSPC. A fast TAC design in combination with a fast flash ADC and an error-correcting ADC/MCA principle results in a max. count rate of 8 MHz (dead time 125 ns). A dual memory architecture allows for unlimited recording of decay curves with collection times down to 150 .mu.s without time gaps between subsequent recordings. Applying a short-pulse diode laser emitting at 640 nm with a repetition rate of 60 MHz in combination with a confocal microscope, we studied bursts of fluorescence photons from individual dye labeled mononucleotide mols. (Cy5-dCTP) in a cone shaped microcapillary with an inner diam. of 0.5 .mu.m at the end of the tip. The flow of the conjugates was controlled by electrokinetic forces. The presented technique permits the counting and identification of all labeled analyte mols. present in a given sample due to their characteristic velocities, burst sizes, and fluorescence decay times.  
IT 146368-14-1D, Cy5, reaction product with dCTP  
RL: ANT (Analyte); ANST (Analytical study)  
(Cy5; time-resolved detection and identification of single analyte mols. in microcapillaries by time-correlated single-photon counting (TCSPC))  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 26

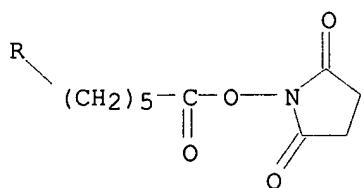
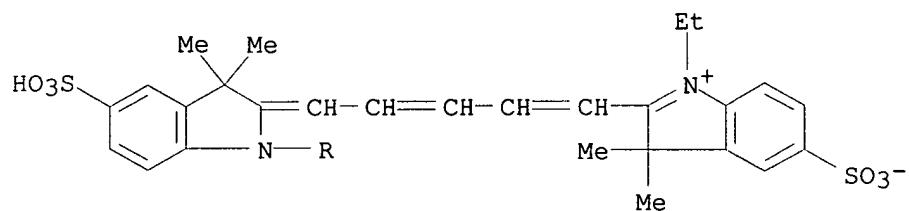
RE

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- (4) Dovichi, N; Proc SPIE 1983, V426, P71 HCPLUS
- (5) Edman, L; Proc Natl Acad Sci USA 1996, V93, P6710 HCPLUS
- (6) Eggeling, C; Proc Natl Acad Sci USA 1998, V95, P1556 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 30

L55 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1999:150877 HCAPLUS  
DN 130:308630  
TI Confocal fluorescence coincidence analysis: an approach to ultra  
**high-throughput** screening  
AU Winkler, Thorsten; Kettling, Ulrich; Koltermann, Andre; Eigen, Manfred  
CS Department of Biochemical Kinetics, Max Planck Institute for Biophysical  
Chemistry, Gottingen, D-37077, Germany  
SO Proc. Natl. Acad. Sci. U. S. A. (1999), 96(4), 1375-1378  
CODEN: PNASA6; ISSN: 0027-8424  
PB National Academy of Sciences  
DT Journal  
LA English  
AB Fluorescence-based assay technologies play an increasing role in  
**high-throughput** screening. They can be classified into  
different categories: fluorescence polarization, time-resolved  
fluorescence, fluorescence resonance energy transfer, and fluorescence  
correlation spectroscopy. In this work we present an alternative anal.  
technique for **high-throughput** screening, which we call  
confocal fluorescence coincidence anal. Confocal fluorescence  
coincidence  
anal. exts. fluorescence fluctuations that occur coincidentally in two  
different spectral ranges from a tiny observation vol. of below 1 fl.  
This procedure makes it possible to monitor whether an assocn. between  
mol. fragments that are labeled with different fluorophores is  
established  
or broken. Therefore, it provides access to the characterization of a  
variety of cleavage and ligation reactions in biochem. Confocal  
fluorescence coincidence anal. is a very sensitive and ultrafast  
technique  
with readout times of 100 ms and below. This feature is demonstrated by  
means of a homogeneous assay for restriction endonuclease EcoRI. The  
presented achievements break ground for **throughput** rates as  
**high** as 106 samples per day with using only small amts. of sample  
substance and therefore constitute a solid base for screening  
applications  
in drug discovery and evolutionary biotechnol.  
IT 146368-14-1, Cy5  
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical  
study); USES (Uses)  
(CY 5, fluorophor label for oligonucleotide; confocal fluorescence  
coincidence anal. as an approach to ultra **high-**  
**throughput** screening)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-  
dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 10

RE

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- (2) Eigen, M; Proc Natl Acad Sci USA 1994, V91, P5740 HCPLUS
- (3) Kettling, U; Proc Natl Acad Sci USA 1998, V95, P1416 HCPLUS
- (4) Koltermann, A; Proc Natl Acad Sci USA 1998, V95, P1421 HCPLUS
- (5) Magde, D; Biopolymers 1974, V13, P29 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 31

L55 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1999:25972 HCAPLUS  
 DN 130:92475  
 TI Use of nucleic acid ligands in flow cytometry  
 IN Davis, Ken; Jayasena, Sumedha; Gold, Larry  
 PA Nexstar Pharmaceuticals, Inc., USA  
 SO U.S., 16 pp., Cont.-in-part of U.S. 5,496,938.  
 CODEN: USXXAM

DT Patent

LA English

FAN.CNT 89

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5853984	A	19981229	US 1995-479729	19950607
	US 5475096	A	19951212	US 1991-714131	19910610
	EP 786469	A2	19970730	EP 1997-200035	19910610
	EP 786469	A3	19970806		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	IL 112141	A1	19980405	IL 1991-112141	19910611
	US 5496938	A	19960305	US 1992-964624	19921021
	US 5472841	A	19951205	US 1994-199507	19940222
	US 5683867	A	19971104	US 1994-234997	19940428
	WO 9641019	A1	19961219	WO 1996-US8089	19960530
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,				
	ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT,				
	LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,				
	SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,				
	IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	AU 9661470	A1	19961230	AU 1996-61470	19960530
	EP 832299	A1	19980401	EP 1996-919017	19960530
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, FI				
PRAI	US 1990-536428	19900611			
	US 1991-714131	19910610			
	US 1992-964624	19921021			
	US 1994-199507	19940222			
	US 1994-234997	19940428			
	EP 1991-912753	19910610			
	IL 1991-98456	19910611			
	US 1993-117991	19930908			
	US 1993-123935	19930917			
	US 1994-234797	19940428			
	US 1995-479729	19950607			
	WO 1996-US8089	19960530			
AB	This invention describes methods for using nucleic acid ligands in flow cytometry applications. A nucleic acid ligand is a non-naturally occurring nucleic acid having a specific binding affinity for a target.				
A	nucleic acid ligand can be directed to any target in any format that is suitable for use in flow cytometry. In a preferred embodiment, the nucleic acid ligands bind cell surface proteins with high affinity and specificity. In another embodiment, the nucleic acid ligands bind				
	Searched by John Dantzman 703-308-4488				

intracellular proteins. In yet another embodiment, the nucleic acid ligands bind to targets in a substance which has been coated on a solid support, such as a bead. The method utilized here for identifying and prep. said nucleic acid ligands is called SELEX, an acronym for Systematic Evolution of Ligands by Exponential enrichment. The invention includes high-affinity nucleic acid ligands having attached one or more fluorophore mols. which may be employed in flow cytometric methodologies.

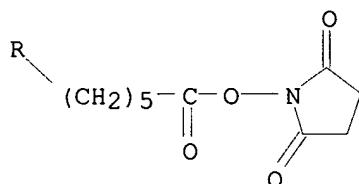
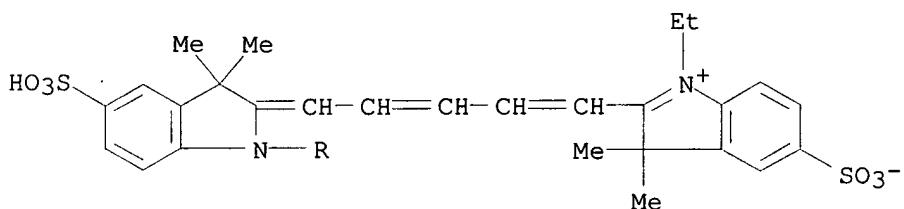
IT 146368-14-1 146368-16-3

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(use of nucleic acid ligands in flow cytometry)

RN 146368-14-1 HCPLUS

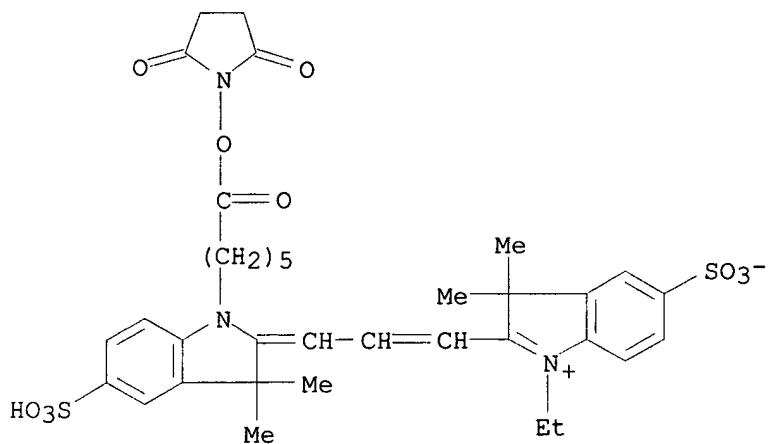
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-

dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-  
3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 146368-16-3 HCPLUS

CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 25

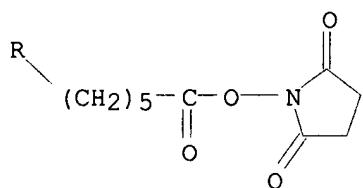
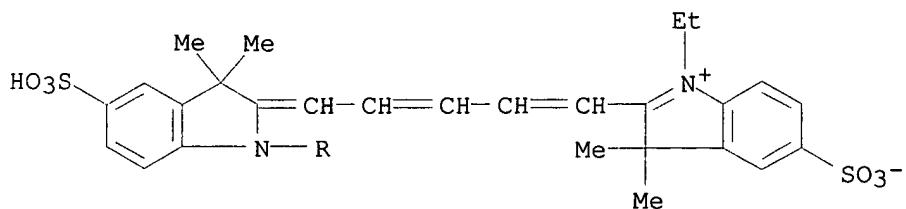
RE

- (2) Anon; WO 8906694 1989 HCPLUS
- (3) Anon; WO 9214843 1992 HCPLUS
- (4) Anon; WO 9305182 1993 HCPLUS
- (5) Anon; WO 9401448 1994 HCPLUS
- (6) Chihara; Eur Cytokine Network 1992, V3, P53 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 32

L55 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1998:815708 HCAPLUS  
DN 130:178689  
TI New ways in bioanalysis-one-way optical sensor chip for environmental analysis  
AU Meusel, Markus; Trau, Dieter; Katerkamp, Andreas; Meier, Frank; Polzius, Rainer; Cammann, Karl  
CS ICB, Institut fur Chemo- und Biosensorik, Munster, D-48149, Germany  
SO Sens. Actuators, B (1998), B51(1-3), 249-255  
CODEN: SABCEB; ISSN: 0925-4005  
PB Elsevier Science S.A.  
DT Journal  
LA English  
AB An optical immunosensor system consisting of a disposable low-cost sensor chip including a fluidic system and a base unit for optical readout, was developed. Near IR (NIR)-fluorescence markers (Cy5) were excited by an evanescent wave generated on the surface of the sensor chip. The combination of both fluorescence measurements and evanescent wave excitation provides extremely sensitive detection and avoids any washing or sepn. steps. To demonstrate the feasibility of the system for environmental control, assays for the detn. of 2,4-D were developed. Two different assay formats were applied to det. 2,4-D in the relevant concn. range. Due to the assay formats chosen, a direct proportional relationship between analyte concn. and signal intensity was achieved. Within an assay time of 15 min only, the analyte 2,4-D could be detd. in a linear concn. range covering 3 orders of magnitude.  
IT 146368-14-1, Cy5  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(Cy5; detn. of 2,4-D using an optical immunosensor system comprising a disposable sensor chip)  
RN 146368-14-1 HCAPLUS  
CN 3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 18

RE

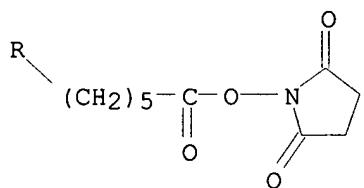
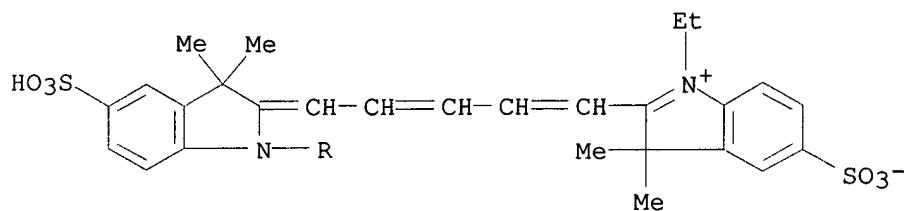
- (1) Bauer, C; Anal Chem 1996, V68, P2453 HCPLUS
- (2) Dean, P; Steroids 18 1971, P593 HCPLUS
- (3) Dzantiev, B; Biosens Bioelectron 1996, V11, P179 HCPLUS
- (5) Johnson, W; Anal Chem 1991, V63, P1510 HCPLUS
- (6) Kalab, T; Anal Chim Acta 1995, V304, P361 HCPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 33

L55 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
 AN 1998:806855 HCAPLUS  
 DN 130:47463  
 TI **High-throughput** assay for enzyme inhibitors and receptor- and target-binding ligands  
 IN Burbaum, Jonathan J.; Chung, Thomas D. Y.; Kirk, Gregory L.; Inglese, James; Chelsky, Daniel  
 PA Pharmacopeia, Inc., USA  
 SO PCT Int. Appl., 37 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9855866	A1	19981210	WO 1998-US11749	19980601
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5876946	A	19990302	US 1997-868280	19970603
	AU 9879551	A1	19981221	AU 1998-79551	19980601
	EP 1002233	A1	20000524	EP 1998-930081	19980601
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1997-868280		19970603		
	WO 1998-US11749		19980601		
AB	A homogeneous <b>high-throughput</b> assay is described which screens compds. for enzyme inhibition, or receptor or other target binding. Inhibition (or binding) by the <b>library</b> compds. causes a change in the amt. of an optically detectable label that is bound to suspendable cells or solid supports. The amts. of label bound to individual cells or solid supports are microscopically detd., and compared				
	with the amt. of label that is not bound to individual cells or solid supports. The degree of inhibition or binding is detd. using this data. Confocal microscopy, and subsequent data anal., allow the assay to be carried out without any sepn. step, and provide for <b>high throughput</b> screening of very small assay vols. using very small amts. of test compd.				
IT	<b>146368-14-1D</b> , Cy5, conjugates with neurokinin A and IL-8 RL: BPR (Biological process); BIOL (Biological study); PROC (Process) (Cy5; <b>high-throughput</b> assay for enzyme inhibitors and receptor- and target-binding ligands)				
RN	146368-14-1 HCAPLUS				
CN	3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)				
	Searched by John Dantzman 703-308-4488				



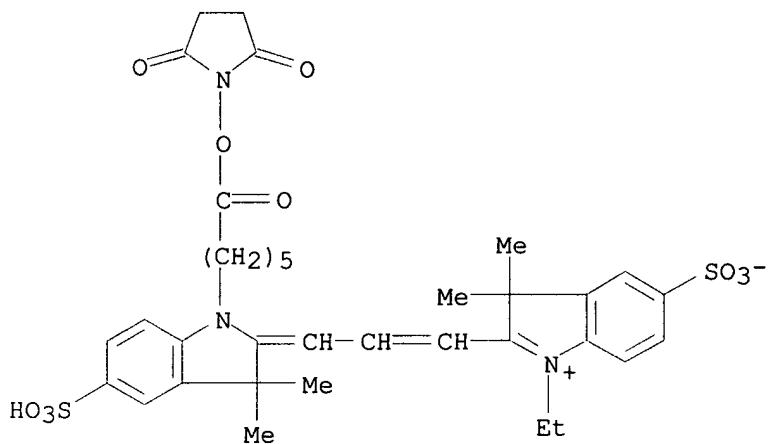
RE.CNT 3

RE

- (1) Baer; US 5547849 A 1996
- (2) Harris; US 5120953 A 1992
- (3) Morrow; International Conference on AIDS 1990 V6(1), P207

=> d bib abs hitstr 34

L55 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2000 ACS  
AN 1998:672007 HCAPLUS  
DN 129:339302  
TI Separation and detection of cyanine-labeled amino acids by micellar electrokinetic chromatography **combined** with fluorescence detection using diode-based solid-state lasers  
AU Kaneta, Takashi; Komatsubara, Takeshi; Shiba, Hiroki; Imasaka, Totaro  
CS Department of Chemical Science and Technology, Faculty of Engineering, Kyushu University, Fukuoka, 812-8581, Japan  
SO Anal. Sci. (1998), 14(5), 1017-1019  
CODEN: ANSCEN; ISSN: 0910-6340  
PB Japan Society for Analytical Chemistry  
DT Journal  
LA English  
AB The detection of cyanine-labeled amino acids was demonstrated by laser induced fluorescence (LIF) using small solid-state lasers, such as a diode laser and diode laser-pumped YAG laser. These lasers have a sufficiently large power to use as an excitation source of LIF detection in electrokinetic chromatog. Two different cyanine derivs., Cy3 and Cy5, were used for the diode laser and the YAG laser excitation, resp. The detection limit for Cy3 was similar to that for Cy5. Thus, these lasers should be useful for the detn. of amino acids. Also, some cyanine derivs., the excitation maxima of which are in the deep-red region, are com. available. Thus, it is expected that diode LIF will be applied to the detn. of biol. samples and DNA sequencing.  
IT 146368-16-3, FluoroLink Mono Reactive Dye Cy3  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (FluoroLink Mono Reactive Dye Cy3; sepn. and detection of cyanine-labeled amino acids by micellar electrokinetic chromatog. **combined** with fluorescence detection using diode-based solid-state lasers)  
RN 146368-16-3 HCAPLUS  
CN 3H-Indolium, 2-[3-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1-propenyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

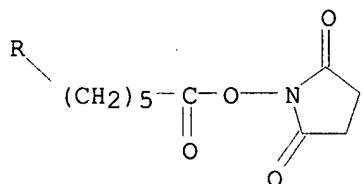
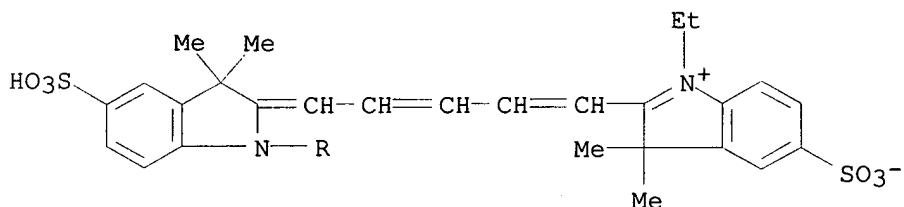


IT 146368-14-1, FluoroLink Mono Reactive Dye Cy5

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (FluoroLink Mono Reactive Dye Cy5; sepn. and detection of  
 cyanine-labeled amino acids by micellar electrokinetic chromatog.  
 combined with fluorescence detection using diode-based  
 solid-state lasers)

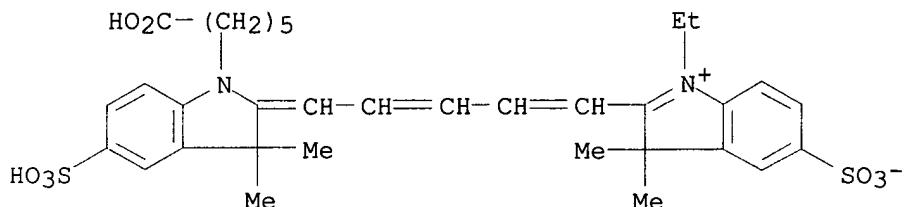
RN 146368-14-1 HCPLUS

CN 3H-Indolium, 2-[5-1-[6-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



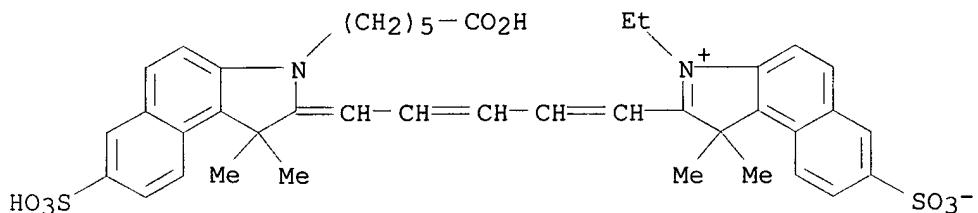
=> d bib abs hitstr 35

L55 ANSWER 35 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1998:412701 HCPLUS  
DN 129:145356  
TI The influence of fluorescent dye structure on the electrophoretic mobility  
of end-labeled DNA  
AU Tu, Oanh; Knott, Tim; Marsh, Michele; Bechtol, Kate; Harris, Dennis;  
Barker, David; Bashkin, John  
CS Molecular Dynamics, Sunnyvale, CA, 94086, USA  
SO Nucleic Acids Res. (1998), 26(11), 2797-2802  
CODEN: NARHAD; ISSN: 0305-1048  
PB Oxford University Press  
DT Journal  
LA English  
AB Over the past 10 yr, fluorescent end-labeling of DNA fragments has evolved  
into the preferred method of DNA detection for a wide variety of applications, including DNA sequencing and PCR fragment anal. One of the advantages inherent in fluorescent detection methods is the ability to perform multi-color analyses. Unfortunately, labeling DNA fragments with different fluorescent tags generally induces disparate relative electrophoretic mobilities for the fragments. Mobility-shift corrections must therefore be applied to the electrophoretic data to compensate for these effects. These corrections may lead to increased errors in the estn. of DNA fragment sizes and reduced confidence in DNA sequence information. Here, we present a systematic study of the relationship between dye structure and the resultant electrophoretic mobility of end-labeled DNA fragments. We have used a cyanine dye family as a paradigm and high-resoln. capillary array electrophoresis (CAE) as the instrumentation platform. Our goals are to develop a general understanding of the effects of dyes on DNA electrophoretic mobility and to synthesize a family of DNA end-labels that impart identically matched mobility influences on DNA fragments. Such matched sets could be used in DNA sequencing and fragment sizing applications on capillary electrophoresis instrumentation.  
IT 146368-11-8D, DNA labeled with 210834-24-5D, DNA labeled with 210834-25-6D, DNA labeled with 210892-23-2D, DNA labeled with  
RL: PRP (Properties)  
(influence of fluorescent dye structure on electrophoretic mobility of end-labeled DNA)  
RN 146368-11-8 HCPLUS  
CN 3H-Indolium,  
2-[5-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



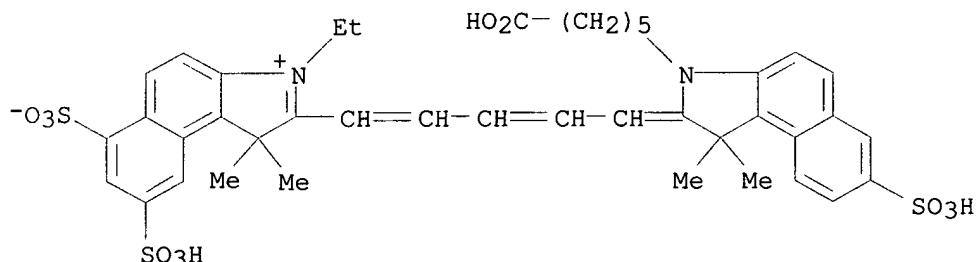
RN 210834-24-5 HCPLUS

CN 1H-Benz[e]indolium, 2-[5-[3-(5-carboxypentyl)-1,3-dihydro-1,1-dimethyl-7-sulfo-2H-benz[e]indol-2-ylidene]-1,3-pentadienyl]-3-ethyl-1,1-dimethyl-7-sulfo-, inner salt (9CI) (CA INDEX NAME)



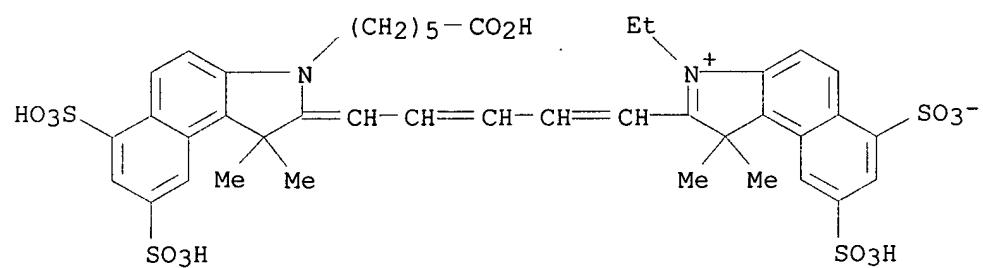
RN 210834-25-6 HCPLUS

CN 1H-Benz[e]indolium, 2-[5-[3-(5-carboxypentyl)-1,3-dihydro-1,1-dimethyl-7-sulfo-2H-benz[e]indol-2-ylidene]-1,3-pentadienyl]-3-ethyl-1,1-dimethyl-6,8-disulfo-, inner salt (9CI) (CA INDEX NAME)



RN 210892-23-2 HCPLUS

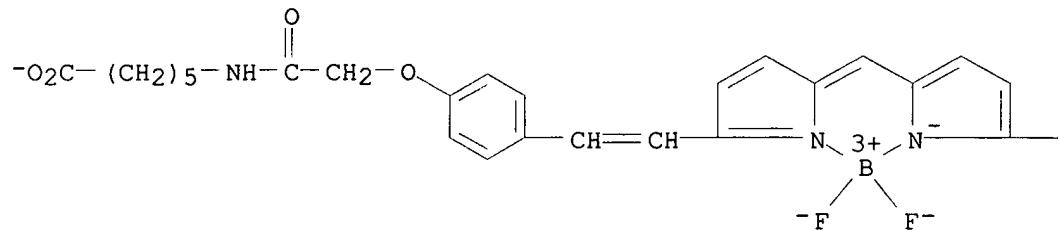
CN 1H-Benz[e]indolium,  
2-[5-[3-(5-carboxypentyl)-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene]-1,3-pentadienyl]-3-ethyl-1,1-dimethyl-6,8-disulfo-, inner salt (9CI) (CA INDEX NAME)



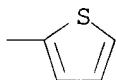
=> d bib abs hitstr 36

L55 ANSWER 36 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1998:312612 HCPLUS  
DN 129:78684  
TI Time-resolved identification of individual mononucleotide molecules in aqueous solution with pulsed semiconductor lasers  
AU Sauer, Markus; Arden-Jacob, Jutta; Drexhage, Karl H.; Gobel, Florian; Lieberwirth, Ulrike; Muhlegger, Klaus; Muller, Ralph; Wolfrum, Jurgen; Zander, Christoph  
CS Physikalisch-Chemisches Institut, Universitat Heidelberg, Heidelberg, 69120, Germany  
SO Bioimaging (1998), 6(1), 14-24  
CODEN: BOIMEL; ISSN: 0966-9051  
PB Institute of Physics Publishing  
DT Journal  
LA English  
AB We applied a short-pulse diode laser emitting at 640 nm with a repetition rate of 56 MHz in **combination** with a confocal microscope to study bursts of fluorescence photons from individual differently labeled mononucleotide mols. in water. Two newly synthesized dyes, an oxazine dye (MR121) and a rhodamine dye (JA53), and two com. available dyes, a carbocyanine dye (Cy5) and a bora-diaza-indacene dye (Bodipy630/650), were used as fluorescent labels. The time-resolved fluorescence signals of individual mononucleotide mols. in water were analyzed and identified by a max. likelihood estimator (MLE). Taking only those single mol. transits which contain more than 30 **collected** photoelectrons, the two labeled mononucleotide mols., Cy5-dCTP and Bodipy-dUTP, can be identified by time-resolved fluorescence spectroscopy with a probability of correct classification of greater than 99%. Our results show that at least three differently labeled mononucleotide mols. can be identified in a common aq. soln. We obtain an overall classification probability of 90% for the time-resolved identification of Cy5-dCTP, MR121-dUTP and Bodipy-dUTP mols. via their characteristic fluorescence lifetimes of 1.05.+-.0.33 ns (Cy5-dCTP), 2.07.+-.0.59 ns (MR121-dUTP) and 3.88.+-.1.71 ns (Bodipy-dUTP).  
IT 209340-49-8, BODIPY 630/650  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (BODIPY 630/650; time-resolved identification of individual mononucleotide mols. in aq. soln. with pulsed semiconductor lasers)  
RN 209340-49-8 HCPLUS  
CN Borate(1-), difluoro[6-[[[4-[2-[2-[[5-(2-thienyl)-1H-pyrrol-2-yl-.kappa.N]methylene]-2H-pyrrol-5-yl-.kappa.N]ethenyl]phenoxy]acetyl]amino]hexanoato(2-)]-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A

●  $H^+$ 

PAGE 1-B



IT 209340-51-2

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(Cy 5; time-resolved identification of individual mononucleotide mols.  
in aq. soln. with pulsed semiconductor lasers)

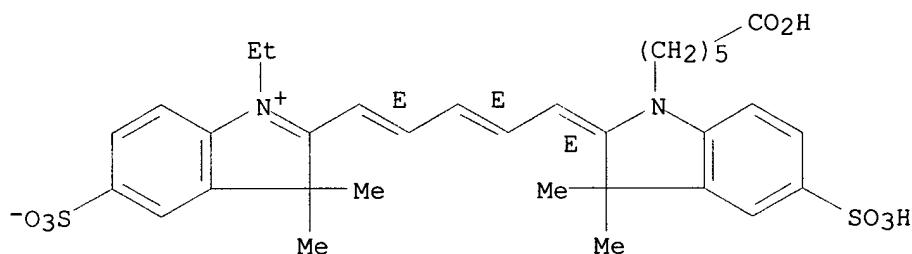
RN 209340-51-2 HCPLUS

CN 3H-Indolium,

2-[(1E,3E,5E)-5-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-

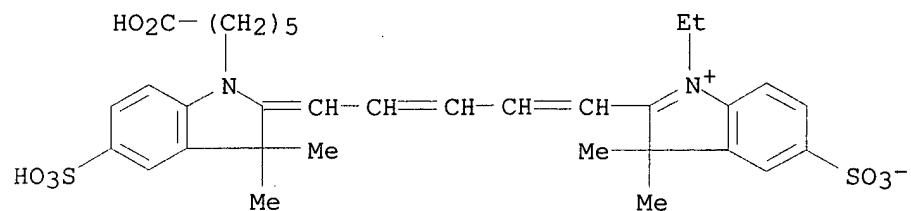
5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-  
, inner salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.



=> d bib abs hitstr 37

L55 ANSWER 37 OF 37 HCPLUS COPYRIGHT 2000 ACS  
AN 1997:753619 HCPLUS  
DN 128:124202  
TI Efficient DNA sequencing with a pulsed semiconductor laser and a new fluorescent dye set  
AU Muller, Ralph; Herten, Dirk P.; Lieberwirth, Ulrike; Neumann, Michael; Sauer, Markus; Schulz, Andreas; Siebert, Stefan; Drexhage, Karl H.; Wolfrum, Jurgen  
CS Im Neuenheimer Feld, Physikalisch-Chemisches Institut, Universitat Heidelberg, 69120 Heidelberg, Germany  
SO Chem. Phys. Lett. (1997), 279(5,6), 282-288  
CODEN: CHPLBC; ISSN: 0009-2614  
PB Elsevier Science B.V.  
DT Journal  
LA English  
AB A new method is presented for automated one-lane four-dye DNA sequencing in capillary gel electrophoresis based on semiconductor technol. and a special set of multiplex fluorescent dyes which exhibit similar absorption and emission spectra but different fluorescent lifetimes. The primer sequencing reaction was applied in a confocal optical system. Detection and identification of the differently 5'-labeled primers was done by time-correlated single-photon counting and a specially developed pattern-recognition technique based on the characteristic fluorescence lifetimes of the fluorescent dyes used as labels. Efficient excitation was performed at 630 nm by a short-pulsed semiconductor laser with a repetition rate of 22 MHz and pulsewidth of about 500 ps (FWHM). With the new dye set, no mobility shift correction is required for a sepn. up to 350 base pairs during sepn. in a linear 5 PAA gel. This technique of multiplex-dye DNA sequencing shows potential for **high-throughput** DNA sequencing in parallel capillaries or microfabricated DNA sequencing chips.  
IT 146368-11-8, Cy 5  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(Cy 5; efficient DNA sequencing with pulsed semiconductor laser and new fluorescent dye set)  
RN 146368-11-8 HCPLUS  
CN 3H-Indolium,  
2-[5-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



=> d bib abs hitstr

L57 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2000 ACS  
 AN 2000:402040 HCAPLUS  
 DN 133:28254  
 TI Detection of biomaterial using polyamide or polysulfone membrane support  
     and fluorescent-labeled binding agent  
 IN Dubitsky, Andrew; Decollibus, Damien  
 PA Pall Corporation, USA  
 SO PCT Int. Appl., 39 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000034522	A2	20000615	WO 1999-US29000	19991206
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1998-111915		19981211		
	US 1999-392793		19990909		
	US 1999-163788		19991105		
AB	A method and system for detecting a labeled complex including biomaterial without stringency washing after complexing and/or without amplifying the label is disclosed. The method uses a polyamide or polysulfone membrane support and a fluorescent-labeled binding agent. Reverse dot blot assays for a .beta.-globin sequence and protein dot blots for mouse IgG were performed using various membranes and red fluorescent dye-labeled probes.				
IT	<b>146368-14-1D</b> , Cy5, end-labeled conjugates with oligonucleotide probes				
	RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (Cy5; detection of biomaterial using polyamide or polysulfone membrane support and fluorescent-labeled binding agent)				
RN	146368-14-1 HCAPLUS				
CN	3H-Indolium, 2-[5-[1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-1-ethyl-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)				

